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Architectural Appointments Wanted and Vacant

No. 3162] [VOL. 122

THE ARCHITECTURAL PRESS

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★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ig to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, " Dyneley," Castle Hill Avenue, Berkhampstead, Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ArchSA	Architectural Students' Association. 34/36, Bedford Square, W.C.1.	
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 8738
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	Reliance 7611, Ext. 1706
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRDB	British Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
BRS	Building Research Station. Bucknalls Lane, Watford	Garston 2246
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
BTE	Building Trades Exhibition. 4, Vernon Place, W.C.1.	Holborn 8146/7
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Newport 65491
CAS	County Architects' Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Chichester 3001
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Sloane 5255
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611
CDA	Copper Development Association. Kendals Hall, Radlett, Herts.	Radlett 5616
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland.	
COID	Council of Industrial Design. 28 Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
DPT	Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Association of Specialists and Sub-Contractors, Artillery House, Artillery Row, S.W.1.	Abbey 7232
FBBDO	Fibre Building Board Development Organization, Ltd. 47, Princes Gate, Kensington, S.W.7.	Kensington 4577
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.	Chancery 7583
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4041
GBPA	Gypsum Building Products Association, 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. C/o R. H. Davies, F.R.I.B.A., 44, Lowndes Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1.	Sloane 5615
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215

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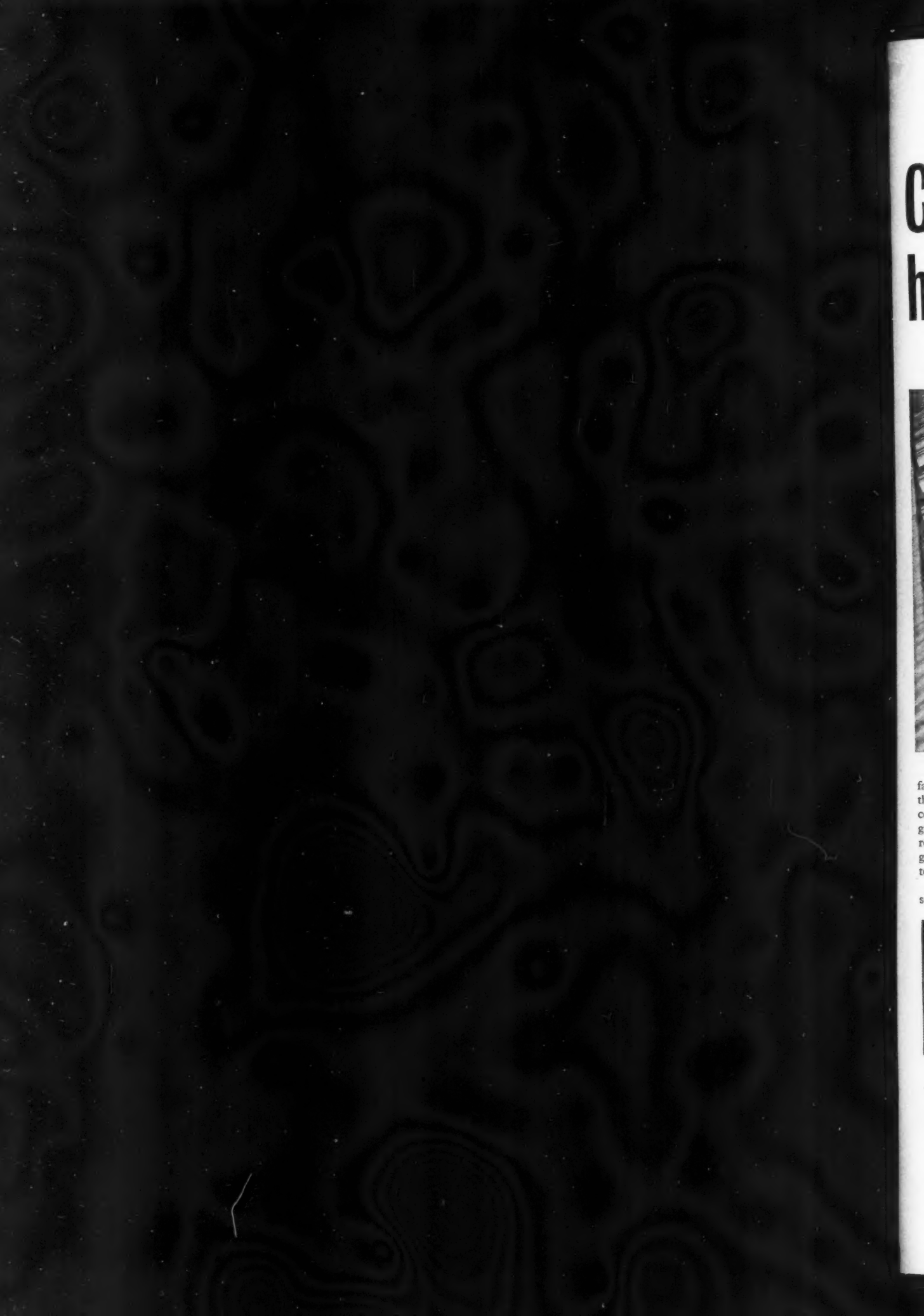
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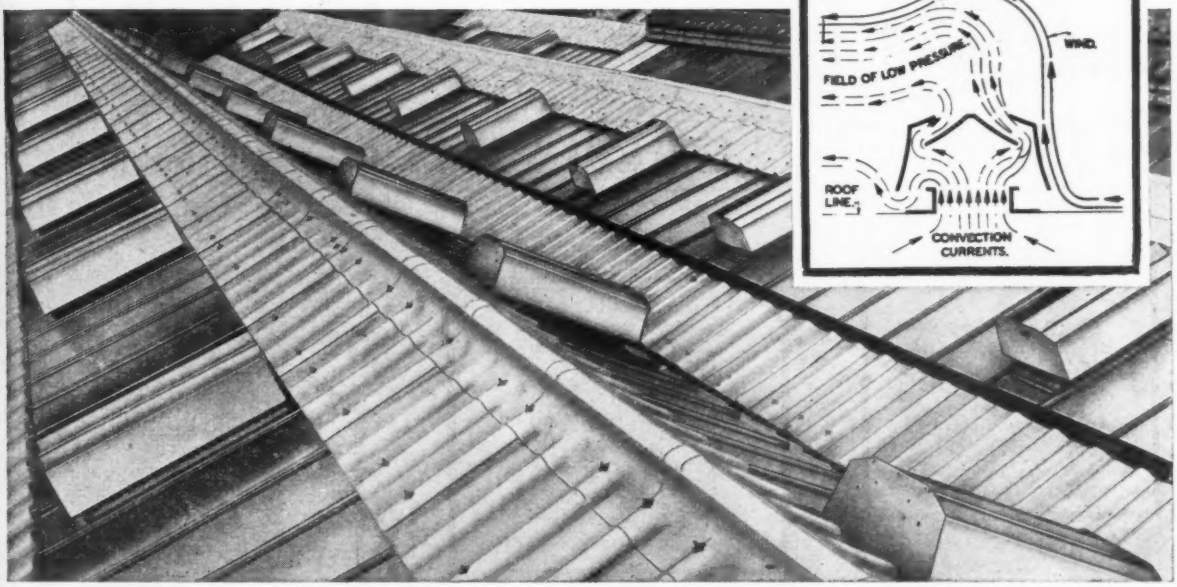




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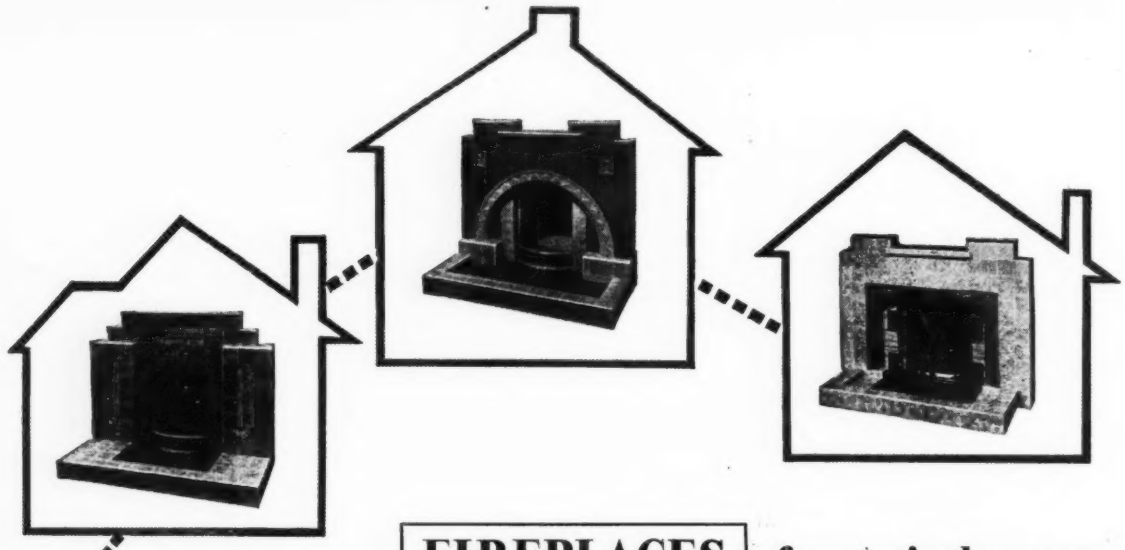
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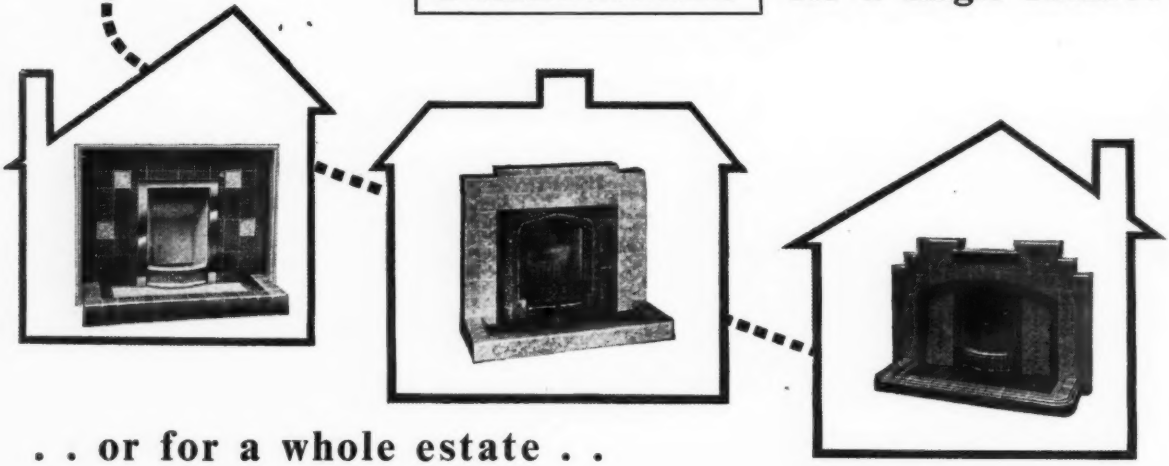
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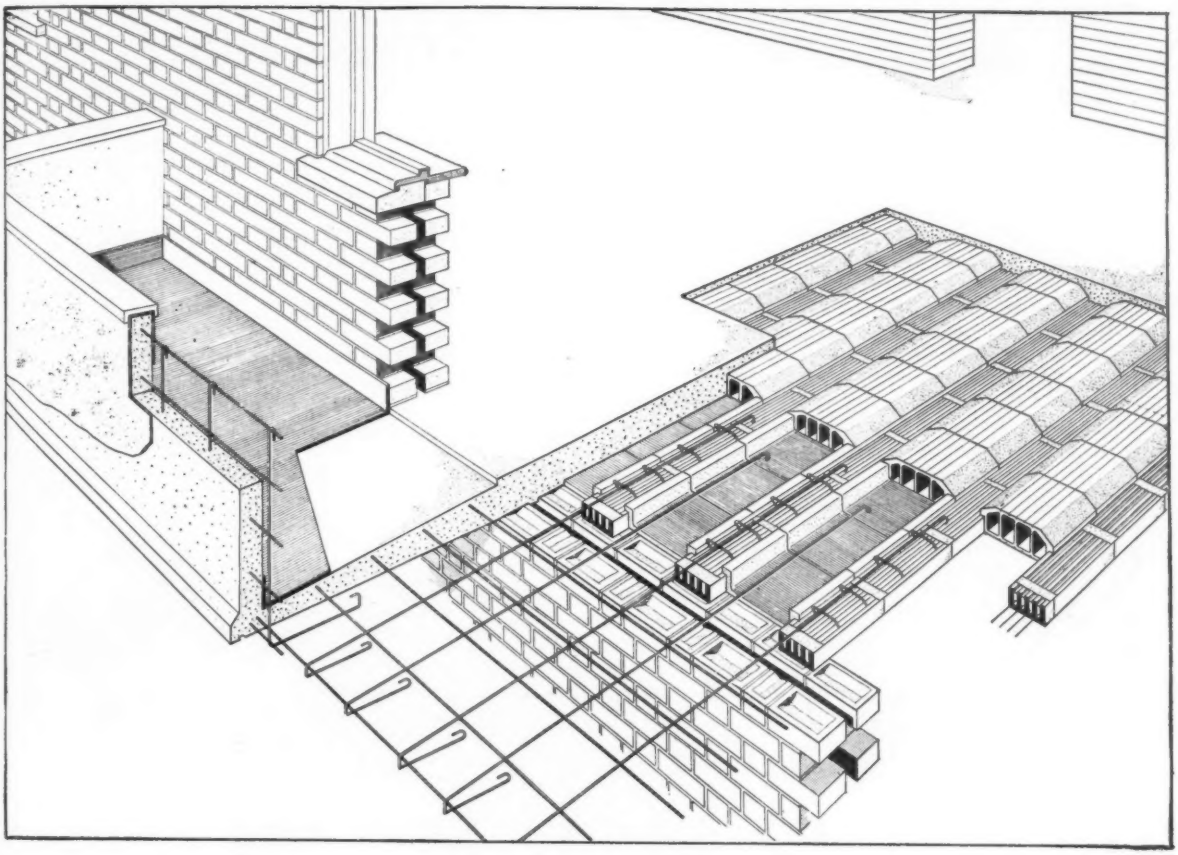
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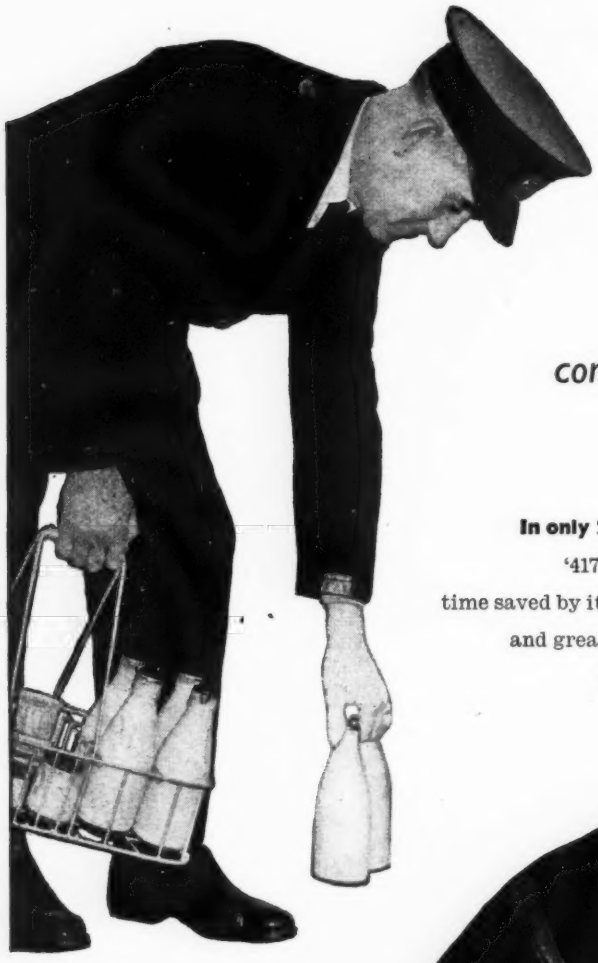
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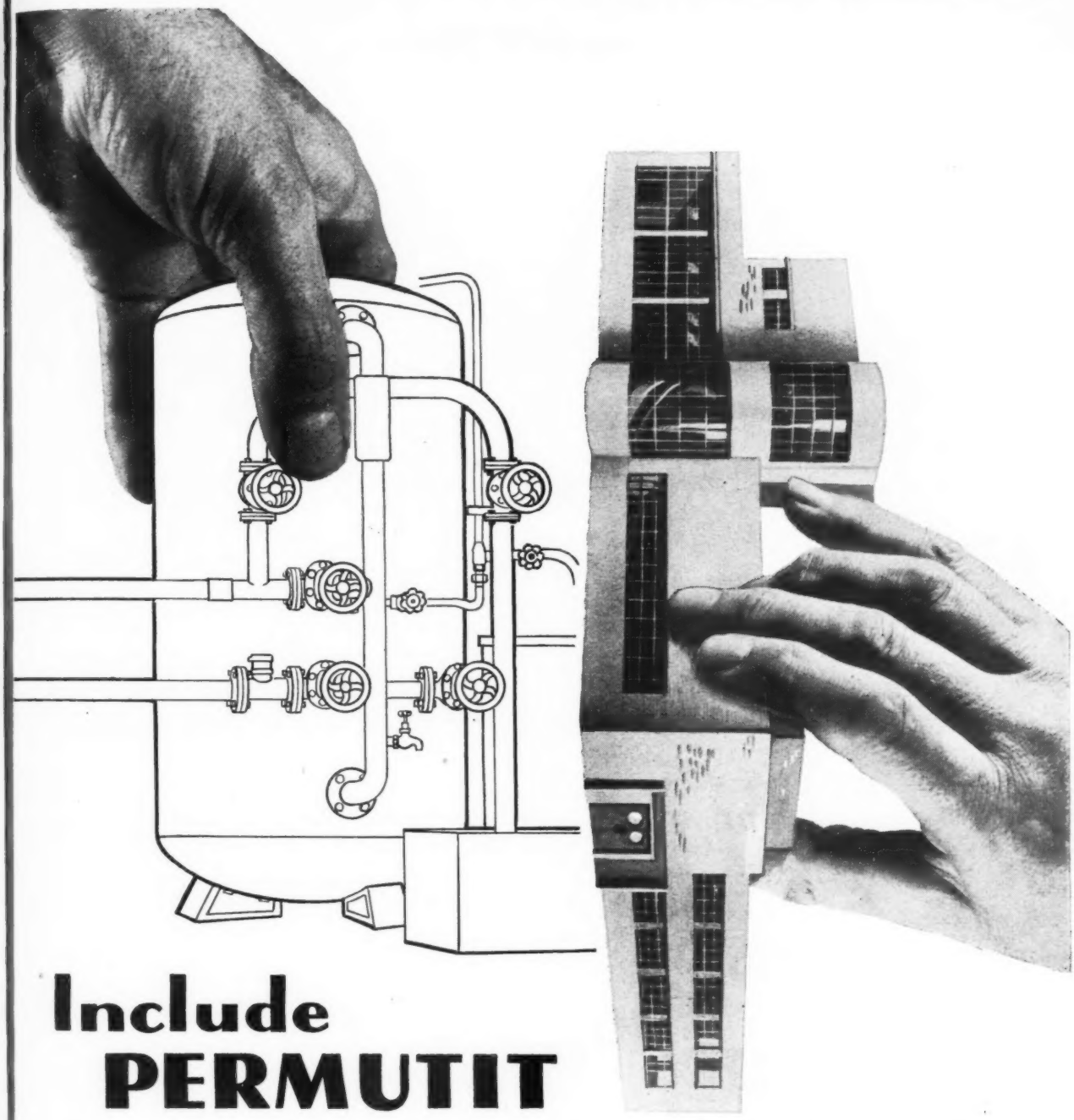
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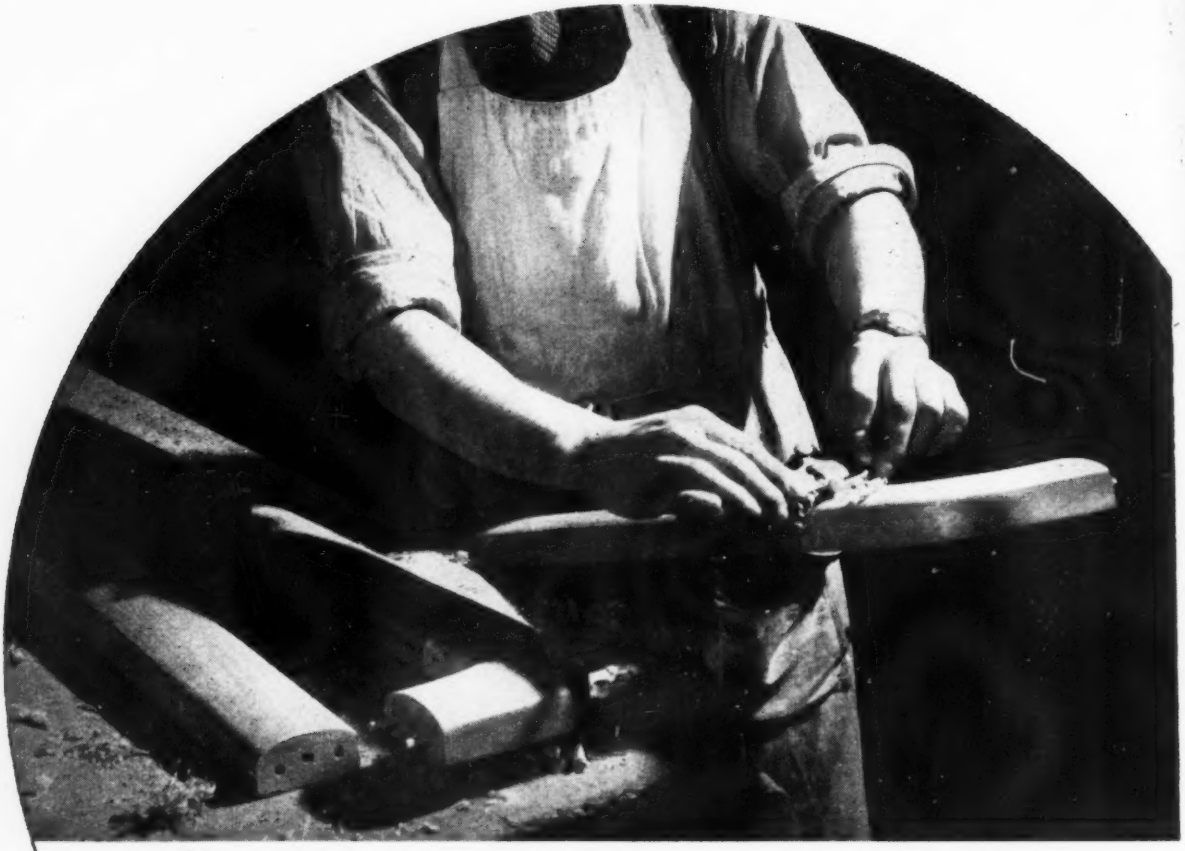
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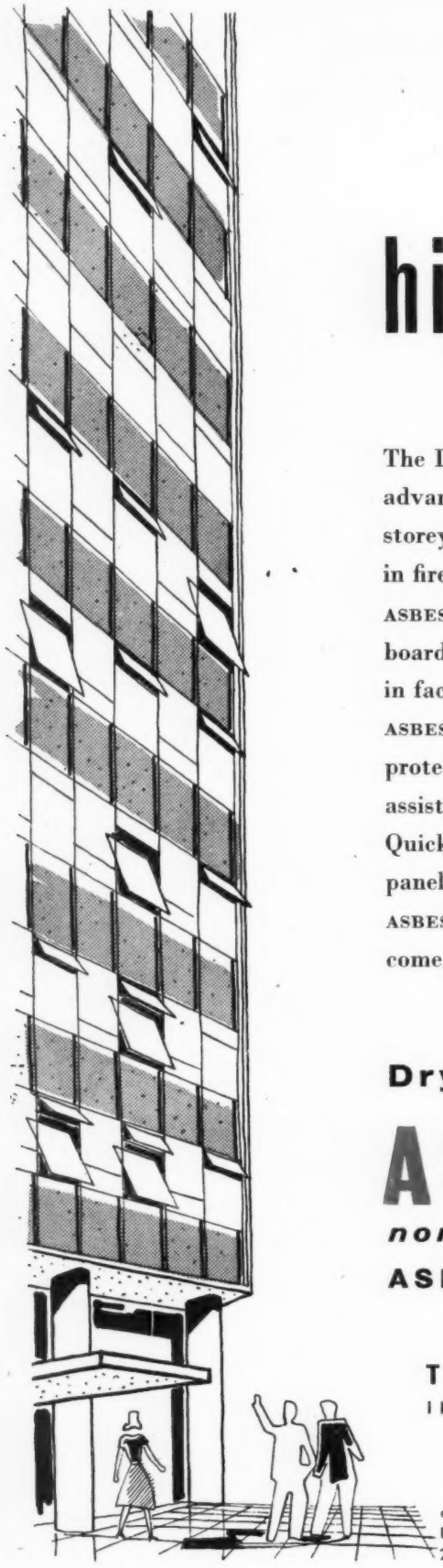
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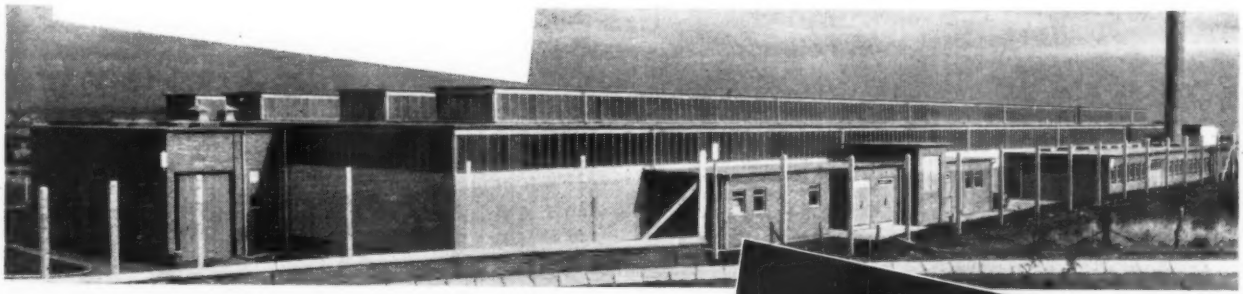
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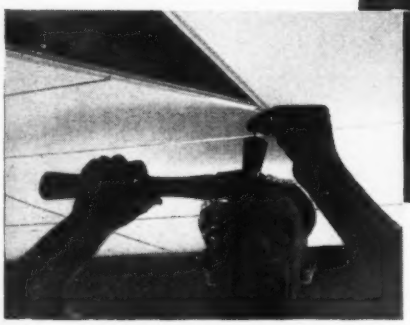
INSULATING BOARD for ceilings and walls

With the "Veelap" system we supply layouts for approval, after which the boards are cut to size and the edges processed with "Veelap". The boards are then numbered on the back to conform to plan and sent to site—in other words, a prefabricated sheet using dry technique finish.

"Veelap" Insulating Board may be nailed, using "Metco" Sheradised Gimp Pins, or P.K. screwed, or bonded to joints and/or battens. The 'lap' takes up any movement of the boards when in place.

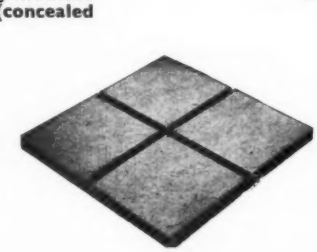


"VEELAP" Insulating Board used for all ceilings in the house built for F. A. JARVIS, Esq., Harpenden, Herts.



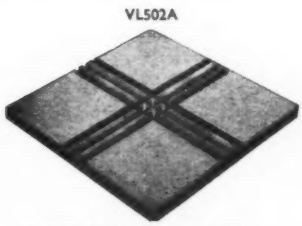
The "Veelap" System is now used in conjunction with our Metal Fixing methods of Suspended Ceilings and walls (concealed fixing).

Types of joints available

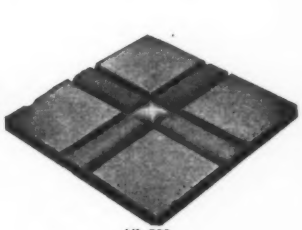


VL500

VL502A



VL 502B (as VL 502A, but with three instead of two beads)



VL 503

The Merchant Trading Company Limited

EFFINGHAM HOUSE, ARUNDEL STREET, STRAND, LONDON, W.C.2

Telegrams: "Themetraco, Estrand, London." Telephone: TEMple Bar 5303 (8 lines)

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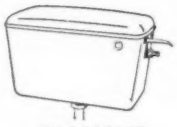
It's been a long, long time...



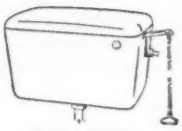
Since the days of the old flushing apparatus, the lavatory cistern has happily become a streamlined, smoothly functioning fitting in keeping with the contemporary style. The newest Lawley plastic cisterns are worthy successors to the trusty *objets d'art* made by Lawleys over seventy years ago; for all their changed appearance, however, traditional quality is still an essential part of their make-up. Prices? In the contemporary manner, to meet today's almost universal need for economy.



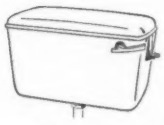
Our illustrated folder gives details of four Lawley models, in plastic, to suit all water regulations. We shall be pleased to forward copies on request.



Model LL/SP



Model HL/P



Model LL/FP



Model WB/P

Lawley BRITANNIA

pioneers in cistern manufacture since 1881

W. & J. LAWLEY LTD., BRITANNIA WORKS, SAMS LANE, WEST BROMWICH

M-W.65



"Winslot" Fencing erected at Waddon Infants' School, Purley Way, Surrey. Reproduced by courtesy of C. T. Ayerst, A.R.I.B.A., Architect to the Croydon Education Committee.

"Winslot" REGD. DESIGN UNIT FENCE

...for all sites where **PERMANENT FENCING** is required

"Winslot" is the ideal PERMANENT Fence for industrial and municipal sites. It is manufactured by a new method to give a consistent quality finish. Reinforcement of all units is perfectly covered by means of patent bar spacers. **Units are cast in a sepia shade of brown colour which produces a mature and pleasing appearance.** Available in heights from 1ft. 8in. to 12ft. with or without trellis. It incurs no subsequent upkeep costs and on this basis is competitive with timber fencing.

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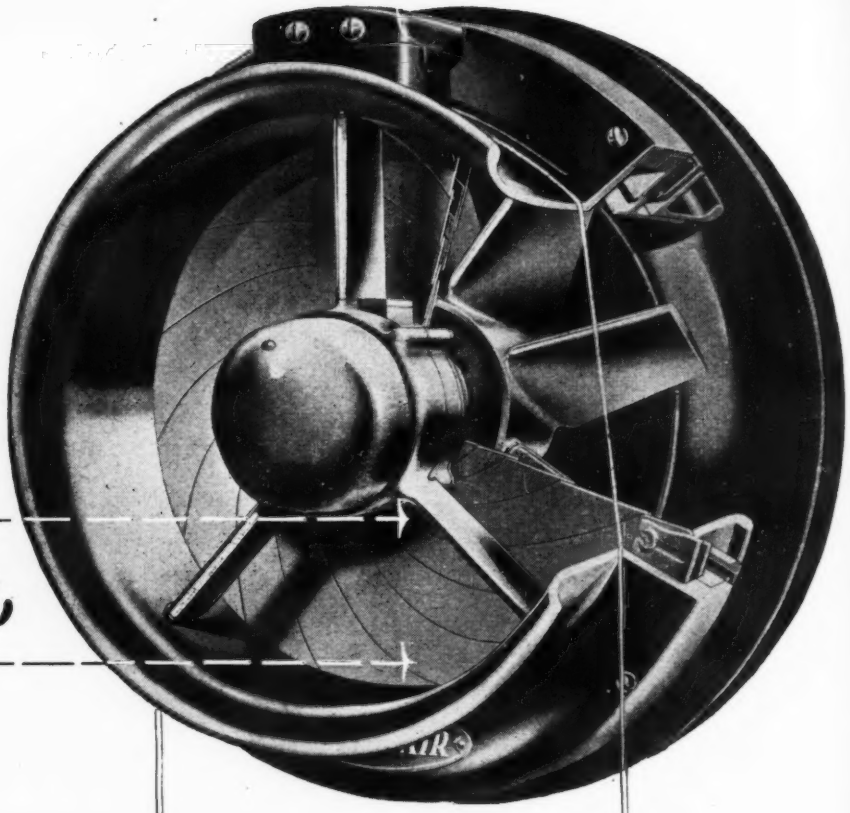
Enquiries invited for supply and erection. Send for "Winslot" illustrated Specification Folder.

METROPOLITAN CONCRETE WORKS LIMITED

IMBER COURT, EAST MOLESEY, SURREY. **Telephone: EMBerbrook 2211/2**

Proprietors of "Winslot" Registered Designs

THE FIRST COST IS THE LAST COST - WITH "WINSLOT"



IT'S THE UNIQUE

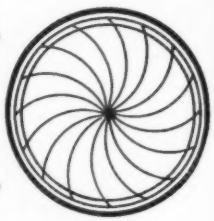
iris shutter

THAT MAKES

XPELAIR

VENTILATION

really draught-proof

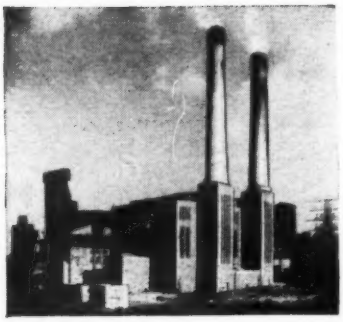


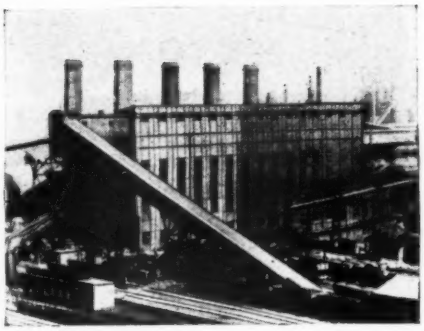
Iris shutter, linked to electrical control, closes when fan is switched off, sealing out back-draughts, weather and street noises.

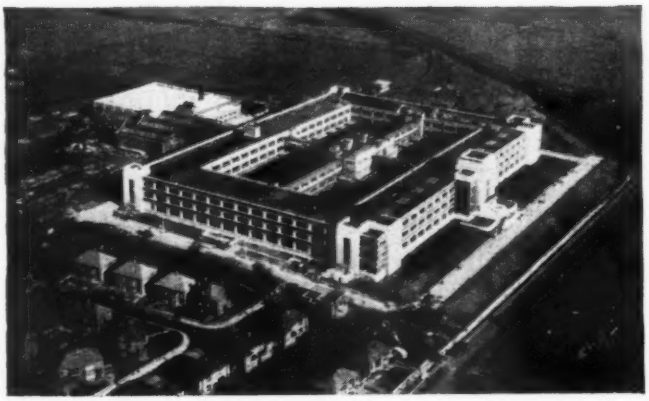
Models available: 15,000 CFH, 30 w.
30,000 CFH, 60 w.
A.C. Single-phase, 50 cycles, and D.C.
Voltage ranges: 100-110; 200-210; 220-250.

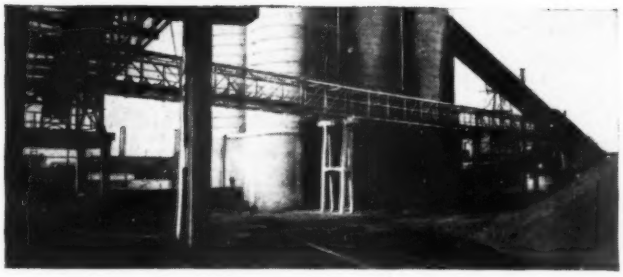
Cheaply and easily installed in any window.

Write for leaflet to THE GENERAL ELECTRIC CO. LTD., Magnet House, Kingsway, London, W.C.2. Telephone: TEMple Bar 8000











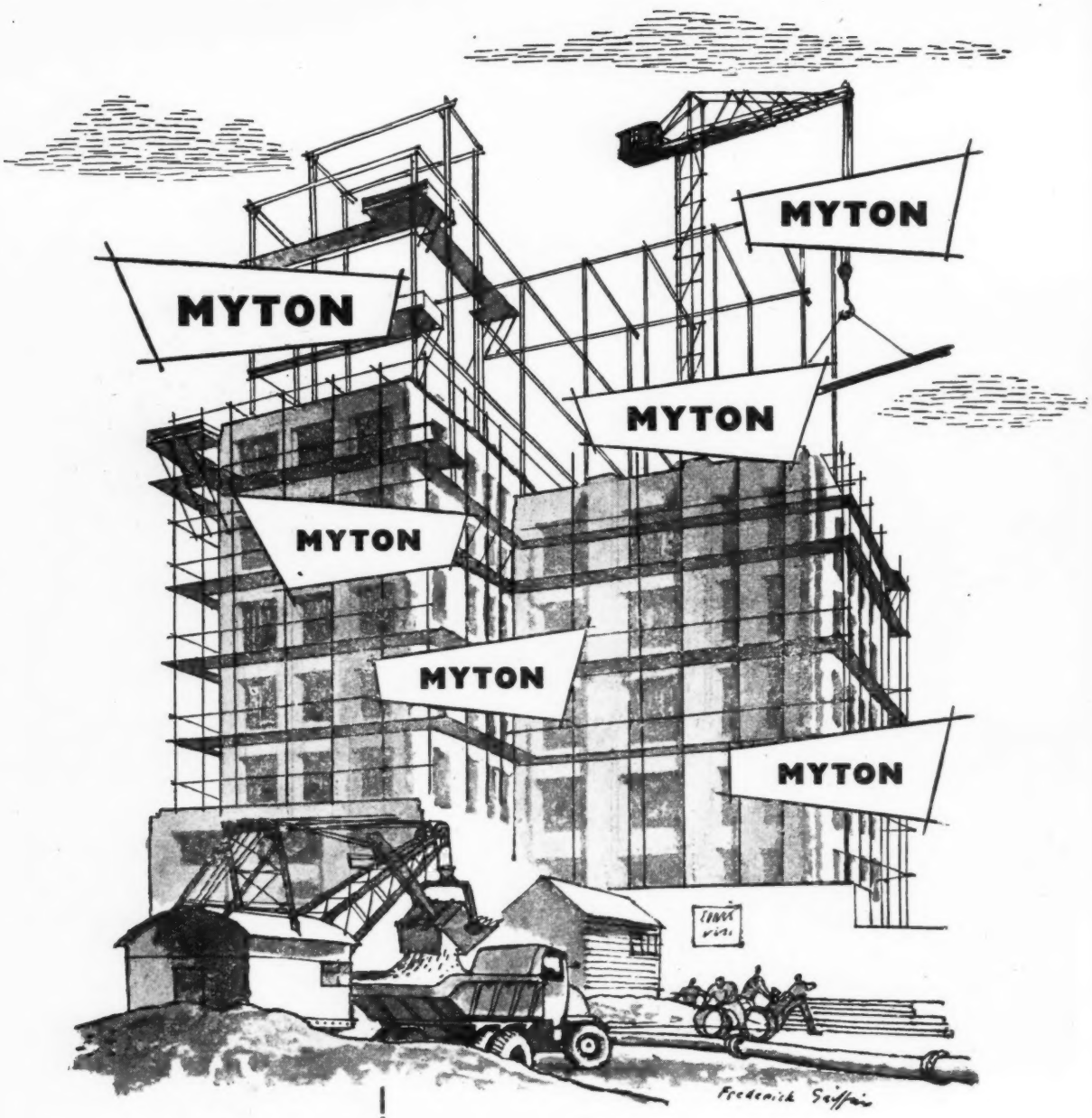
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You'll be seeing more and more of

MYTON

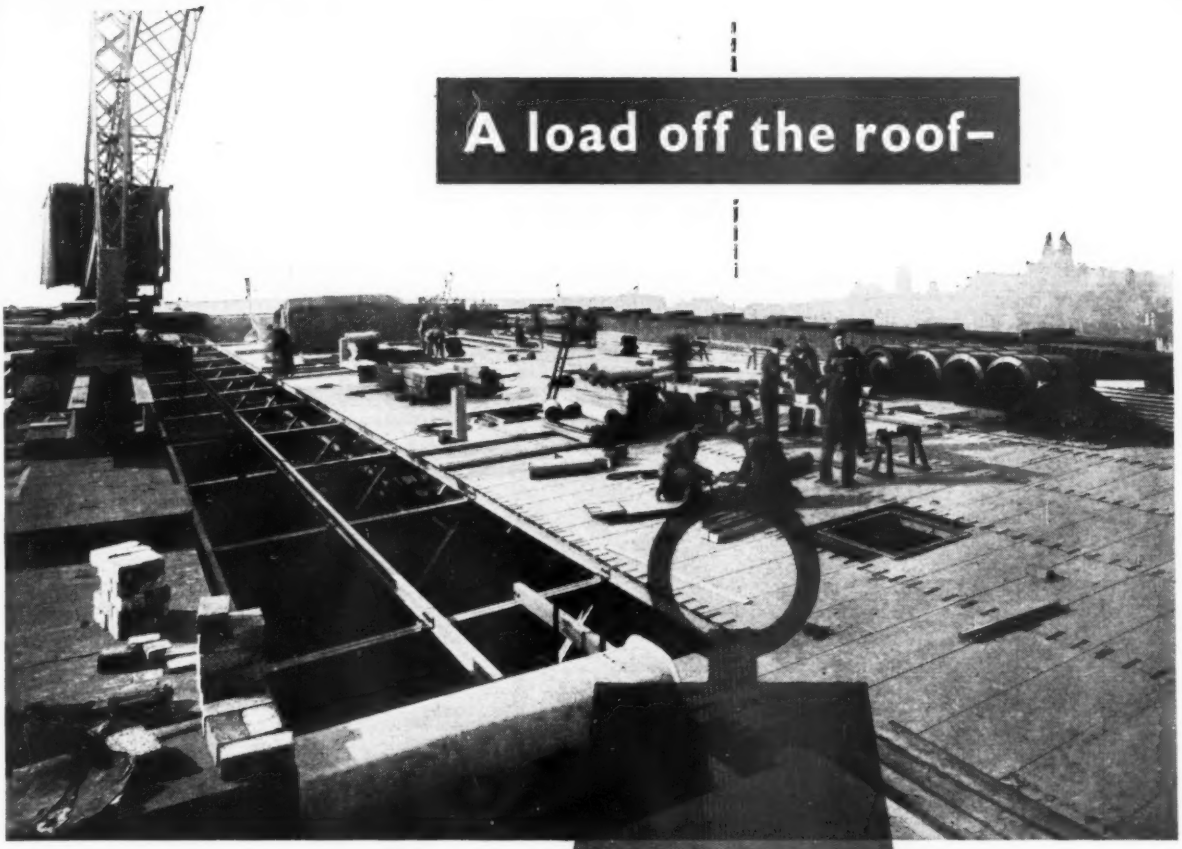
It is of considerable interest and significance that MYTON LIMITED are now a part of the TAYLOR WOODROW GROUP OF COMPANIES, with all the valuable advantages which automatically spring from membership of that vast organisation

MYTON LIMITED ***Building and Civil Engineering Contractors***

Now a member of the **TAYLOR WOODROW GROUP**

HEAD OFFICE: NEWLAND, HULL

A load off the roof–



A weight off your mind

Ruberoid Steel Roof Deck, when insulated and weatherproofed, weighs only 4½ lb. per square foot. Yet it has the necessary strength and rigidity to support high superimposed loading over wide spans on flat, pitched or curved roofs. Because of the saving in dead load and the use of a flatter pitch, fewer and smaller structural members are necessary.

Erecting roofing of this kind requires specialised experience, and The Ruberoid Company Ltd. therefore undertakes the complete job. But to ensure that the specification will be exactly right, consult Ruberoid at the design stage.

For low-cost permanent roofing, giving complete satisfaction for decade after decade, specify Ruberoid materials and workmanship.

Special Features of The Ruberoid Roof

- Built-up roofing undertaken on buildings of any shape or size—anywhere in Britain.
- Specifications include roof decks of steel, aluminium and asbestos cement, all these being insulated externally and weatherproofed with Ruberoid Roofing.
- Representatives and Branches throughout the country will give immediate attention to plans and estimates.
- Comprehensive service includes consultation, inspection and maintenance. Call in Ruberoid at an early stage.

RUBEROID

THE BEST POSSIBLE MATERIALS LAID IN THE BEST POSSIBLE WAY

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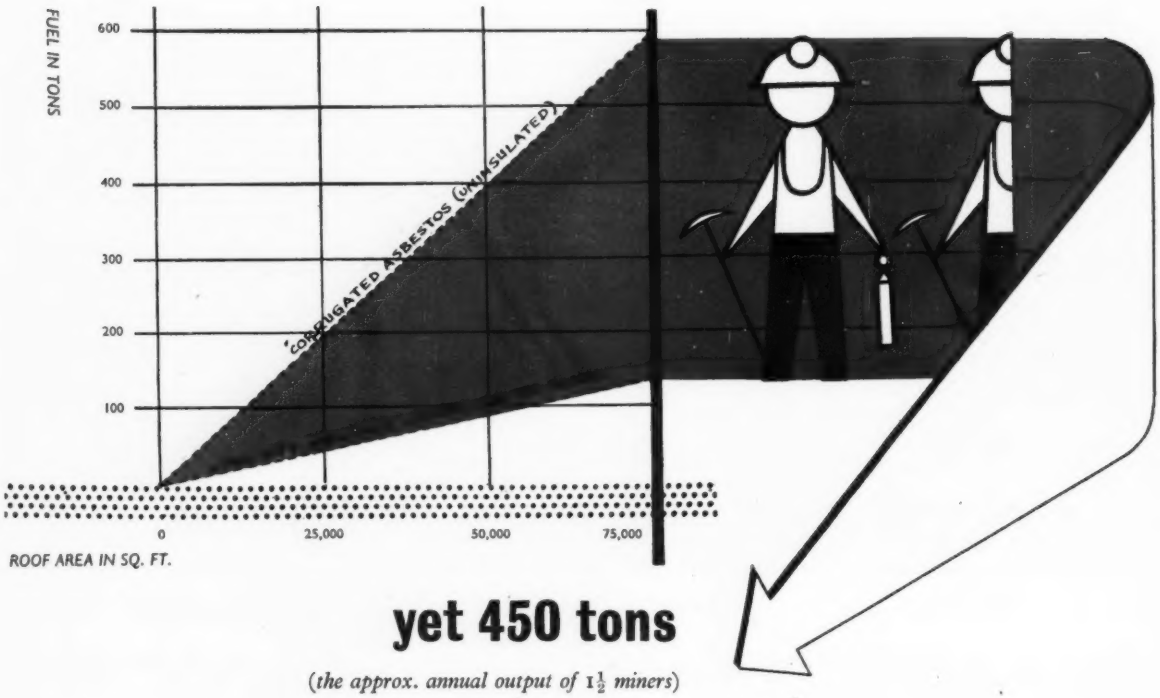
THE RUBEROID COMPANY LIMITED · 343 Commonwealth House 1-19 New Oxford St. · London · W.C.1

TGA C189

fuel

is expensive

and scarce



yet 450 tons

(the approx. annual output of 1½ miners)

are wasted every year in this one factory

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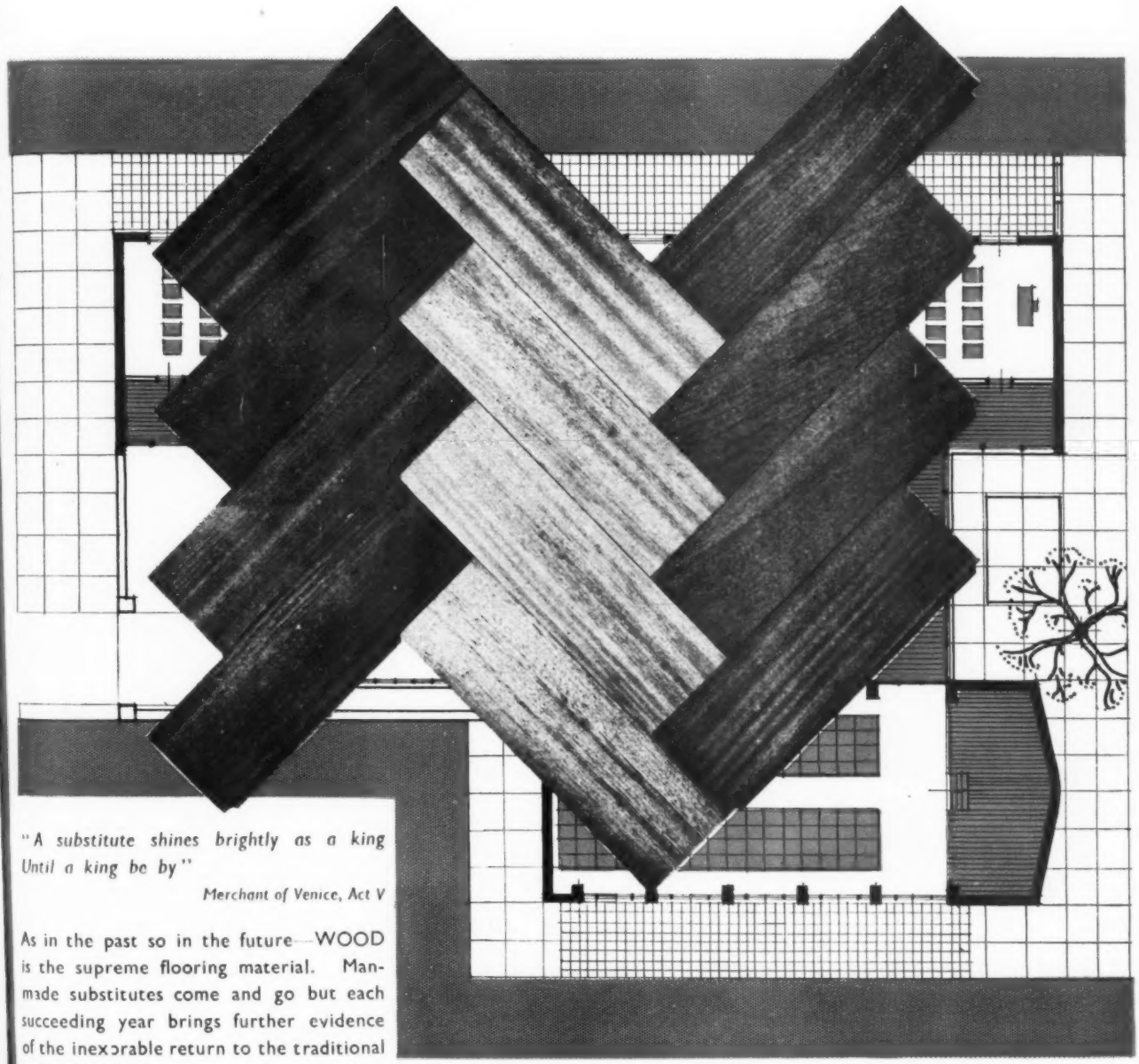
INSULATION PLUS HIGH RESISTANCE TO FIRE

Our brochure on the thermal insulation of industrial buildings (written for the layman) will be of interest to your client; a copy will be sent on request.

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FLOORS for the future . . . by HOLLIS



"A substitute shines brightly as a king Until a king be by"

Merchant of Venice, Act V

As in the past so in the future—WOOD is the supreme flooring material. Man-made substitutes come and go but each succeeding year brings further evidence of the inexorable return to the traditional HARDWOOD for floors. Many excellent hardwoods are now available at moderate cost which combine BEAUTY, DURABILITY and COMFORT with ECONOMY.

SPECIFY— ***MADE IN ENGLAND***

to ensure precision in manufacture, controlled moisture content and stability of the floor.

RECENT CONTRACTS:— SILENTBLOC LTD. CRAWLEY. *Factory and Offices.*

SPECIFICATION: 783 yds. 1 inch nom. GURJUN Wood Block Flooring
ARCHITECTS: J. M. Austin-Smith & Partner, A.A.R.I.B.A.
CONTRACTORS: F. G. Minter Ltd.

HOLLIS BROS. LTD.

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This new and really up to date gas-fired Boiler was designed with a market in mind. It is the boiler for those who believe that although first class service may cost more, it is always worth paying for.

For such a refined fuel as Gas a first class boiler is essential. Such is the 'Diplomat'. With a maximum output of 44,000 B.Th.U., it will feed a 65 gallon storage tank, or, fitted to an indirect system, it will serve a 35-40 gallon storage tank plus 3 or 4 radiators. Full thermostatic control maintains water at the right temperature and keeps gas consumption to the minimum. A cut-out safety device ensures absolute safety.

The automatic choice of the people we have in mind is the

Diplomat

a model of self-control

POTTERTON made by DE LA RUE

THOMAS DE LA RUE & CO. LTD., (Gas Division)
20/30 Buckhold Road, London, S.W.18.

DLR 475

STAIRWAY TO THE STARS



This staircase at the Empire Theatre, Liverpool, is pounded by heavy traffic twice nightly, six nights every week—not counting matinees!

That's why Ferodo Stairtreads have been fitted. They do a double job . . . speeding the feet of hurrying theatregoers by providing a firm, reassuring grip under foot, and also protecting the carpeting by saving wear and tear on the stair edges.

Ferodo Stairtreads are practically unaffected by hard and continual use. One set fitted at the University Union, Manchester, and only recently renewed, had been down for 33 years! Cleaning is speedy and simple; a quick wash or brush down soon restores all their good looks.

Specify Ferodo Stairtreads for your next interior design. There's a wide range of colours to choose from, and you are sure to find one that will merge into, or even enhance your colour scheme. All the information you need . . . prices, colours, types and method of ordering . . . is in the Ferodo Stairtread Catalogue No. 888.



FERODO Non-Slip Stairtreads

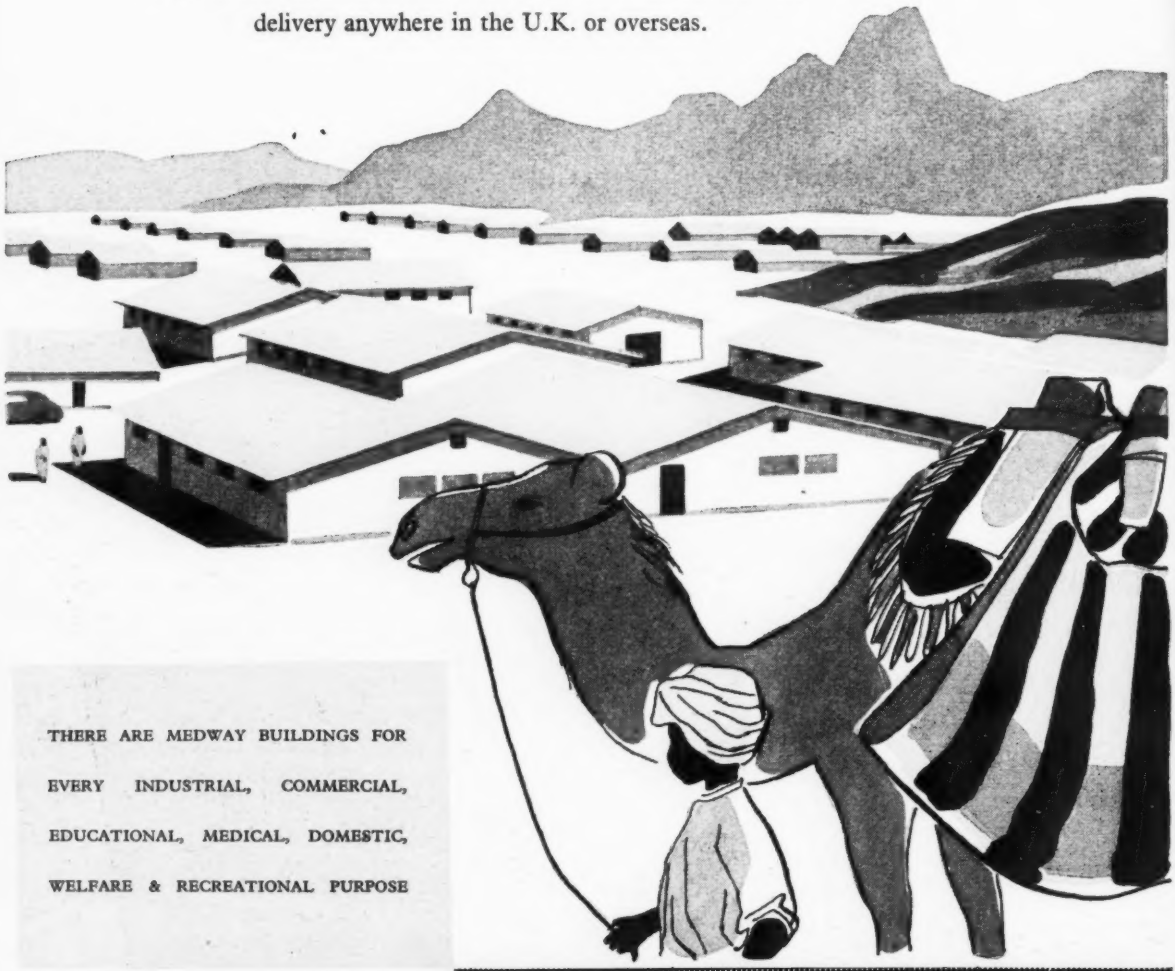
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In Aden *or Andover*

Construction goes ahead

A hospital building for the Arabs of sun-drenched Aden extra classrooms for the school children of Andover . . . wherever progress is on the march, additional construction is a necessity.

The Medway unit systems of construction—permitting a choice of alternative methods—offer the advantages of easy handling, quick erection, exceptional adaptability and lower cost. Various designs, made in over 100 sizes, are available for early delivery anywhere in the U.K. or overseas.



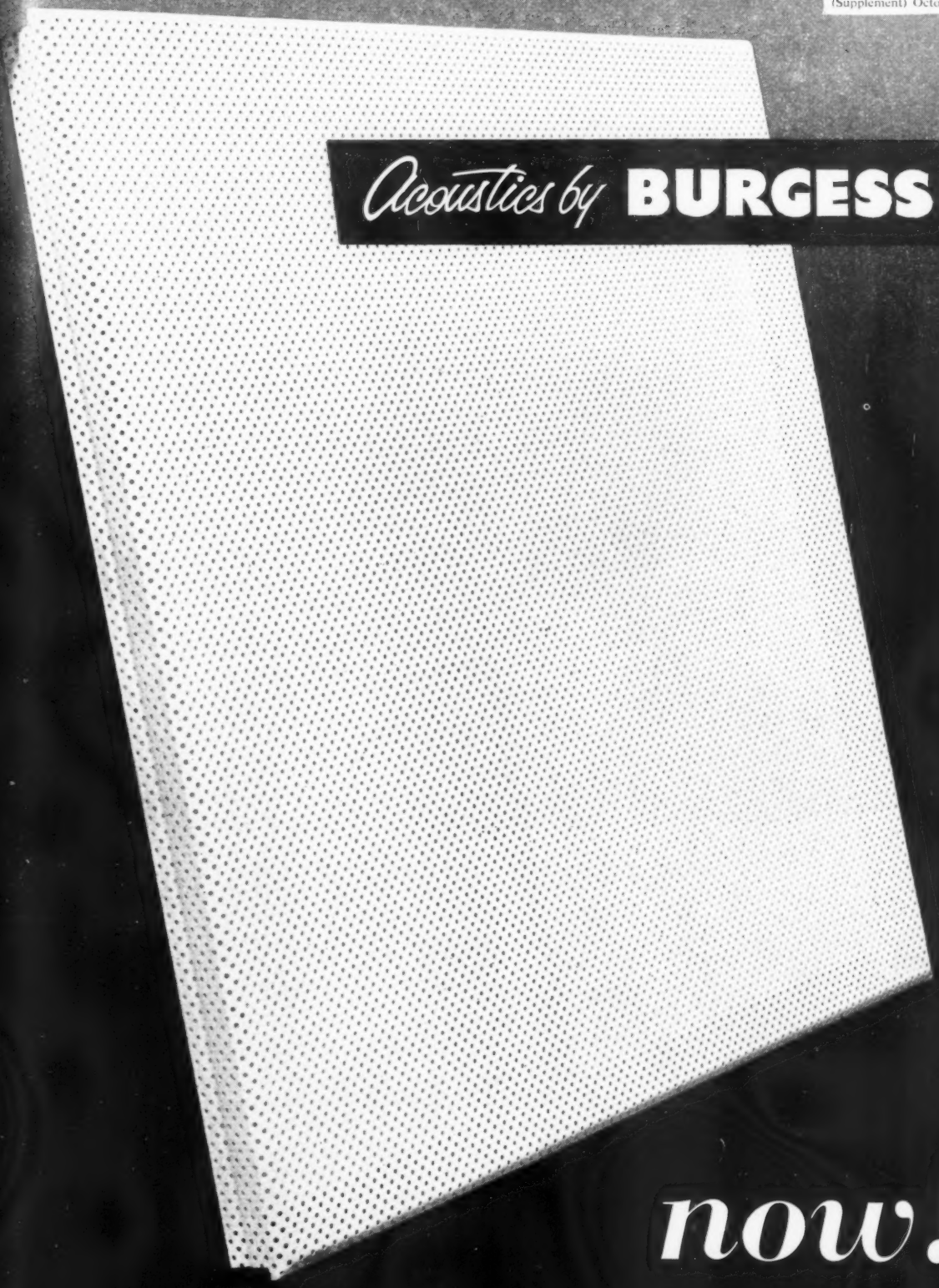
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THE ARCHITECTS' JOURNAL
(Supplement) October 6, 1955



Acoustics by **BURGESS**

now!

LARGE 2 FT. BY 2 FT.
ACOUSTIC TILES

BURGESS PRODUCTS CO. LTD. ACOUSTICAL DIVISION, HINCKLEY, LEICESTERSHIRE



OLD ROADSIDE HOTEL SOLVES HOT WATER PROBLEM



The Cotswold Gateway Hotel at Burford, Glos.

SADIA WATER HEATERS



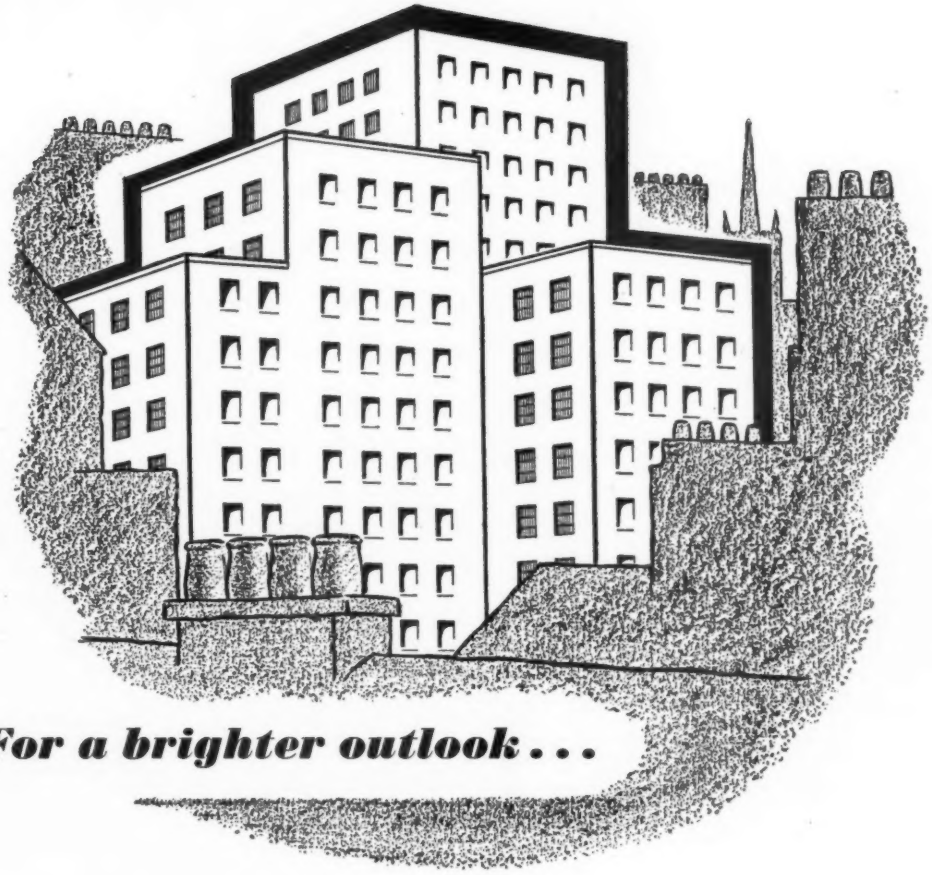
CUT DOWN RUNNING COSTS
GIVE VALUABLE ADDITIONAL SPACE
MAKE POSSIBLE DRAUGHT BEER TRADE

Messrs Hunt, Edmunds & Co Ltd, the Banbury brewers, are carrying out extensive modernisation of their several properties in the Cotswolds. The latest to be completed is the beautiful old Cotswold Gateway Hotel at Burford, on the main London/Cheltenham Road (A.40), owned by Wayside Inns Ltd (a subsidiary of Hunt, Edmunds & Co Ltd). The alterations were planned by Hunt, Edmunds' architectural staff, and here too as on other occasions Sadia Water Heaters of various capacity were installed. Before this, hot water was supplied by solid fuel boilers which, together with the coal, were housed in the two main cellars. These cellars are now used for stocking beer in barrels and this makes possible a profitable retail trade in draught beer. But more important is the fact that there is now *ample* and *constant* piping hot water for guests' rooms and bathrooms, for the manager's flat and for use in the bar, kitchen, pantry and everywhere else. Wayside Inns Ltd. find that this simple, dependable and cleaner SADIA way provides a substantial saving in staff and running costs.

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HOT WATER BY ELECTRICITY

SAFE · CLEAN · ECONOMICAL

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For a brighter outlook . . .

'BURWELL'

Kiln-fired WHITE GAULT CLAY FACING BRICKS ***For light reflection***

Kiln-fired FLUSHED WHITE GAULT CLAY FACING BRICKS ***For a light effect***

available in size 2⅝" only

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the unique features of

ROBERTSON Q-DECK
TRADE MARK

include...



The long span of Robertson Q-DECK, section QDC, makes purlins unnecessary and speeds erection. A table of spans is given on page seven of Robertson Q-Deck Publication QD3.
Have you had your copy?

1... PERMISSIBLE SPANS UP TO 14 FEET

- **permissible span up to 14 feet**
- **flat, clean soffit**
- **minimised fire risk**
- **resistance to corrosive conditions**
- **'top-speed' fixing**
- **no blistering of felt weatherproofing**

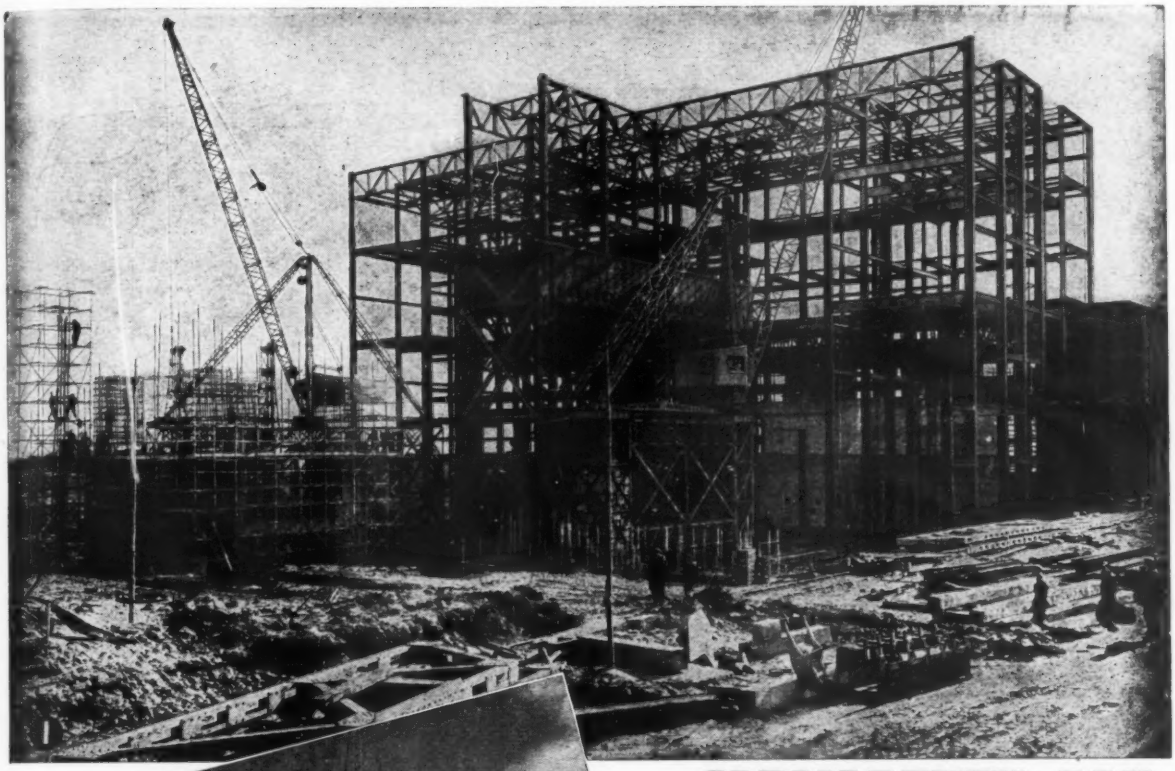
ROBERTSON THAIN LIMITED
Ellesmere Port • Wirral • Cheshire

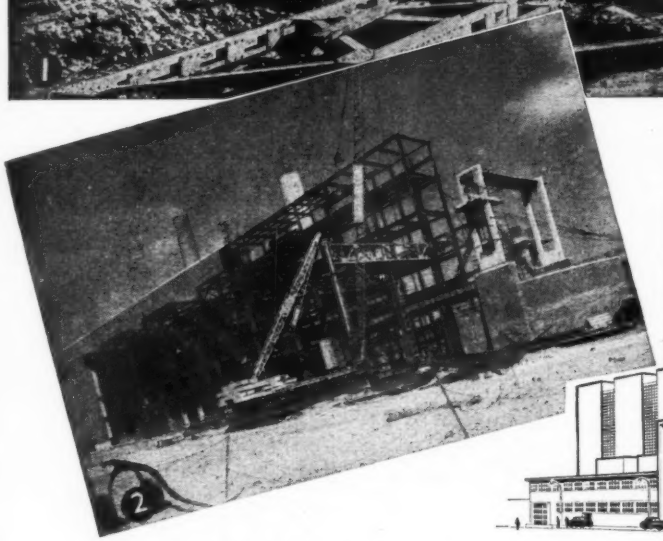
Telephone: Ellesmere Port 2341
Telegrams: "Robertroof"

Sales Offices:

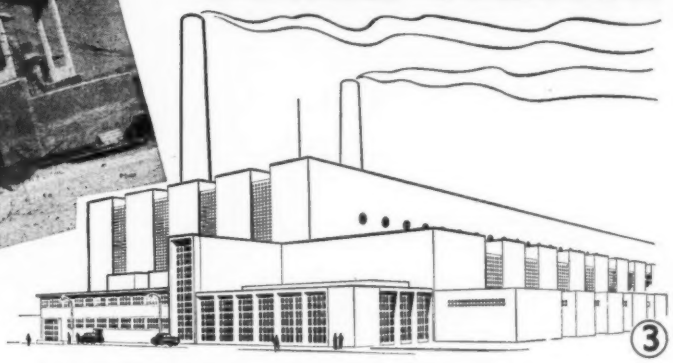
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QD. 9





CARMARTHEN BAY POWER STATION



1. View towards South-East across No. 1 Boiler House site showing also No. 1 Chimney Plinth in course of construction.
2. Main Building. General view of No. 3 Turbine Room and tank annexe steelwork from South side, looking North-West.
3. Main building. General view of Station building from foreshore, looking North-East.

Photographs by courtesy of the Central Electricity Authority, South Wales Division.
Engineers and Contractors: Messrs. Balfour, Beatty & Co. Ltd.

STRUCTURAL STEELWORK BY

SOUTH DURHAM

SOUTH DURHAM STEEL & IRON CO. LTD. (incorporating CARGO FLEET IRON CO. LTD.)
Central Constructional Department, Malleable Works, Stockton-on-Tees. Telephone : Stockton-on-Tees 66117.



FACTORY WITH ITS FUTURE ON THE FLOOR

This factory, recently completed by Henry Boot & Sons, Ltd., on a 4,700 square yards rising corner site at Burnbank, Scotland, is occupied by Archibald Stevenson and Son, Ltd., carpet manufacturers. Altogether, with office accommodation and the extensive showroom which occupies a corner position on the upper floor, there are just under 5,700 square yards of floor space. The exterior of the factory is practical without being elaborate and fits in pleasantly with its surroundings.

Architects: Messrs. Cullen, Lochhead & Brown in collaboration with Messrs. Wylie, Shanks & Wylie, for the owners, The Scottish Industrial Estates, Ltd.

Henry Boot

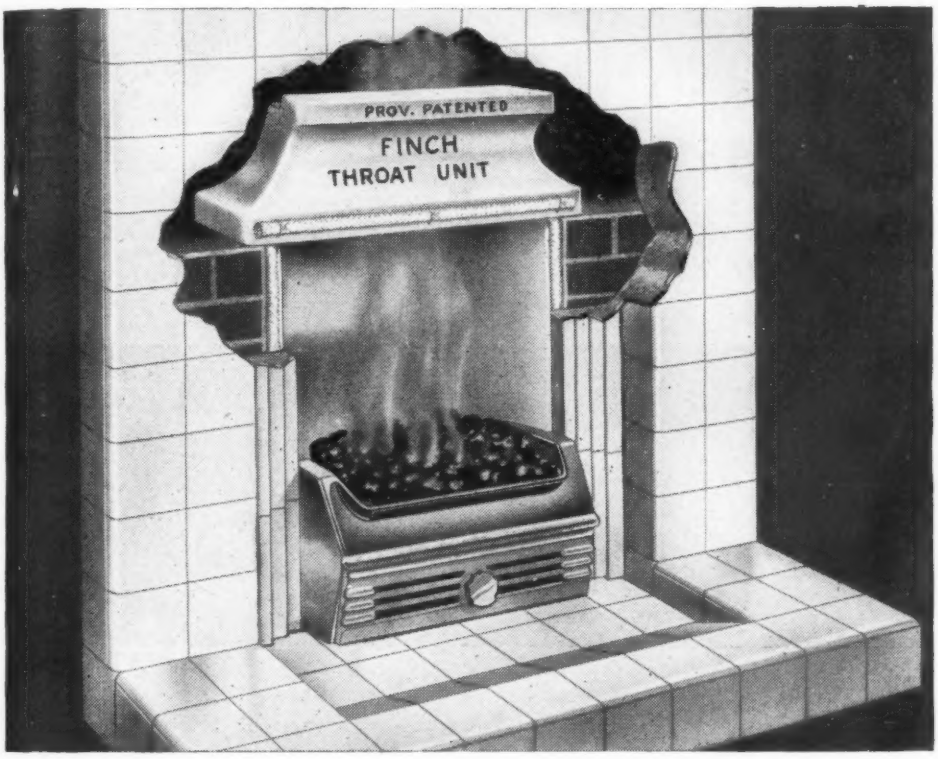
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RAILWAYS · WATER DISTRIBUTION SCHEMES
BUILDING PROJECTS OF EVERY DESCRIPTION

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OA/2469

IMPROVED MODERN HEATING APPLIANCES DESERVE BETTER FLUES

Better flues are achieved with the Finch Throat Unit



Faulty design at the entrance to the flue can waste heat, cause smoky fires and damage to surrounds. The Finch Throat Unit overcomes these problems by providing a smooth, streamlined union between the fire and flue. In this way, the smoke column is given extra velocity, down draughts are reduced and a protective insulating void is provided between the throat and the surround.

The restriction provided by the unit reduces excessive ventilation in the room. Recent practical tests have proved that the installation of the Throat Unit actually gives a room-heat conservation figure of 17% plus, over and above the saving made by the modern appliance.

These very practical advantages make the Finch Throat Unit an essential part of every fireplace installation.

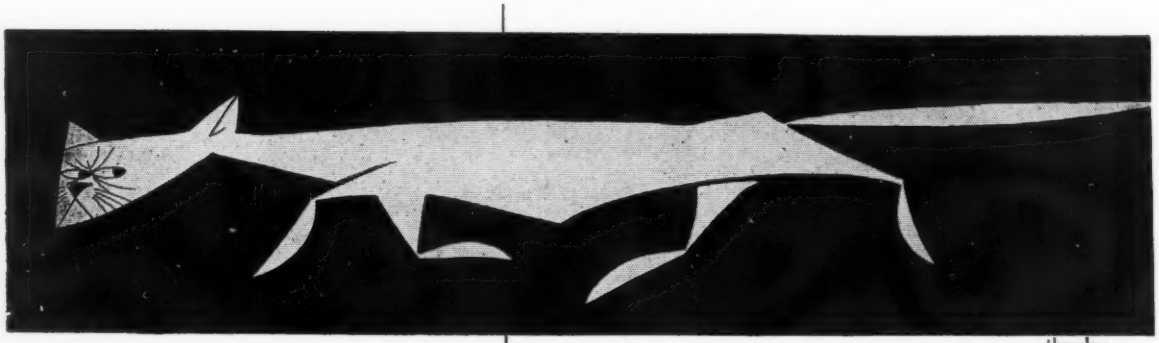
THE *Finch* ORGANIZATION

Head Office & Works:
BELVEDERE WORKS, BARKINGSIDE, ESSEX *VALentine 8888 (30 lines)*
Showrooms:
FINCH CORNER, 679/687 EASTERN AVENUE, ILFORD, ESSEX

A comprehensive work on flue design entitled "The Finch Chimney Throat Unit" is available free on request.

"At night all cats are grey

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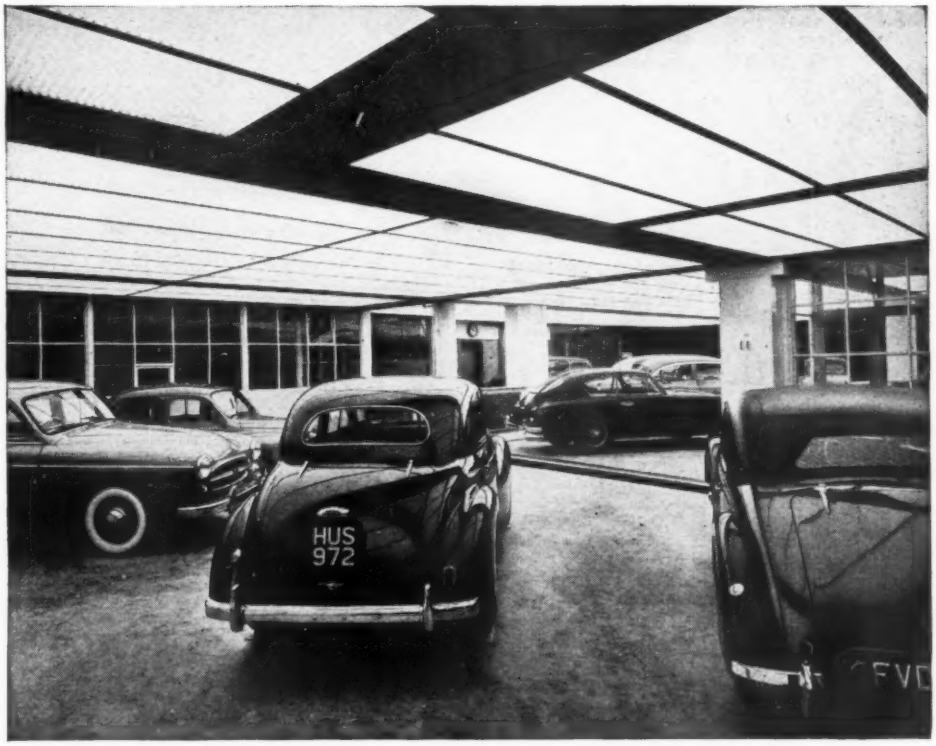
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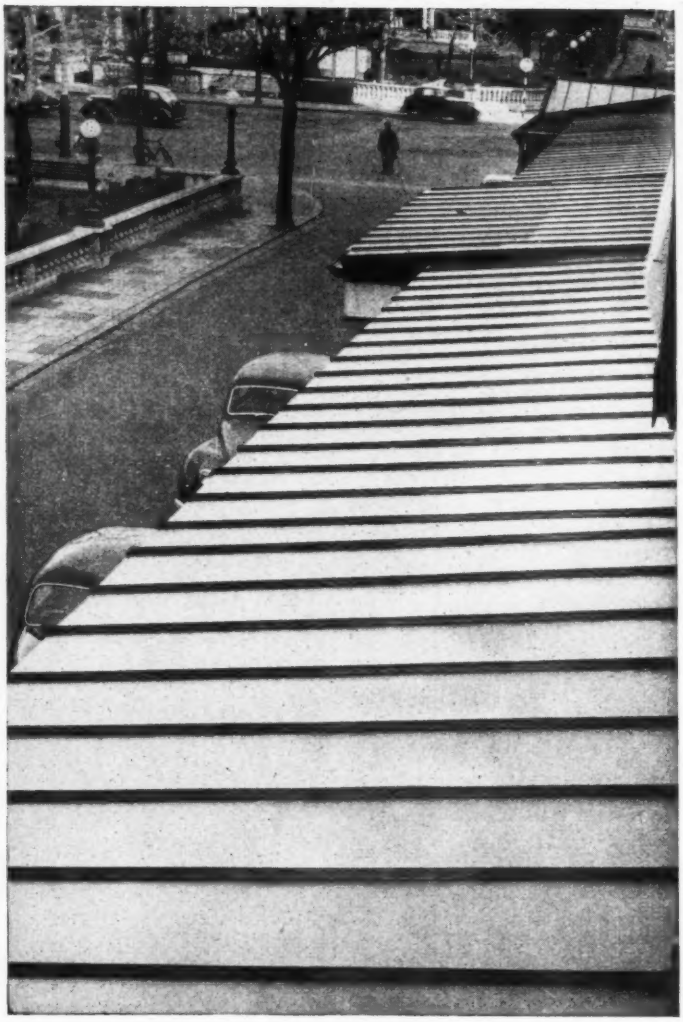
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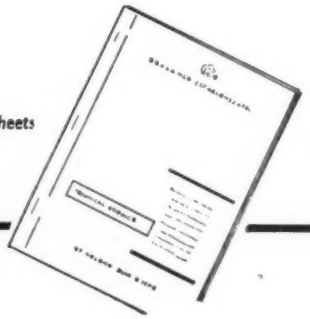
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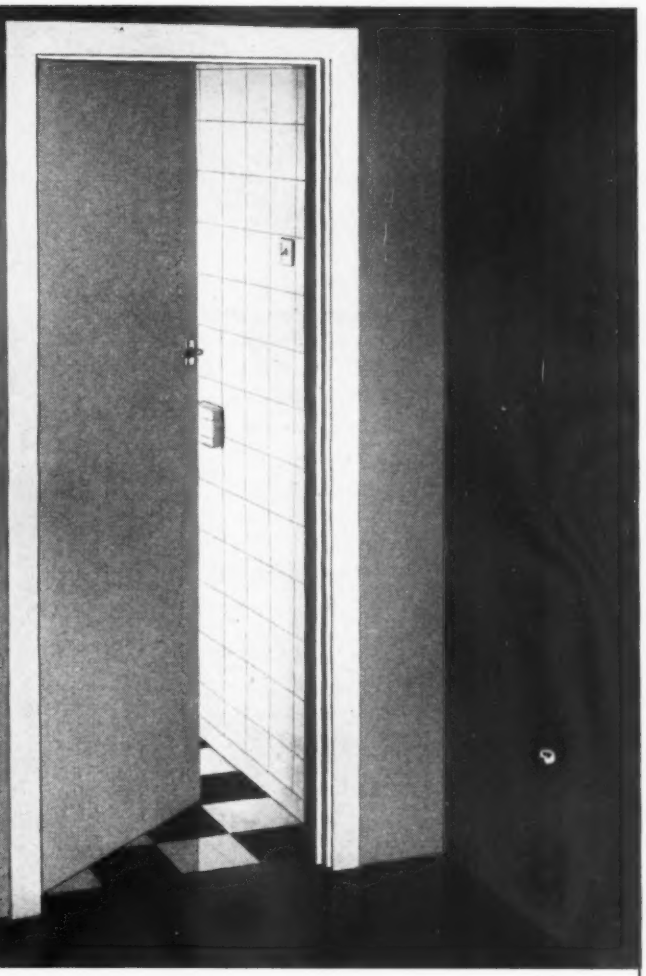
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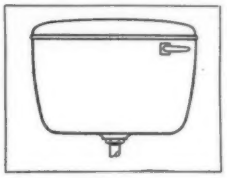
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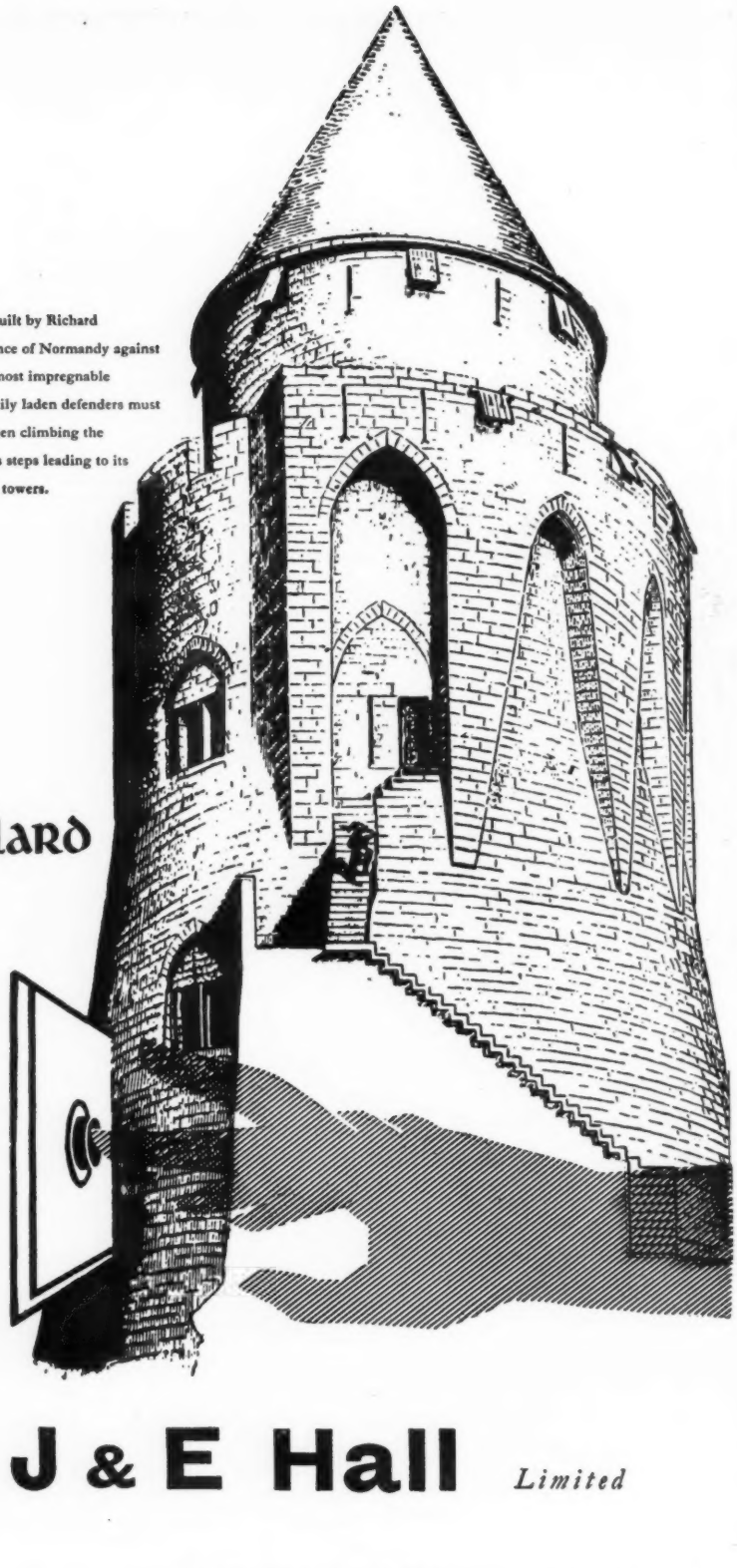
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S.26



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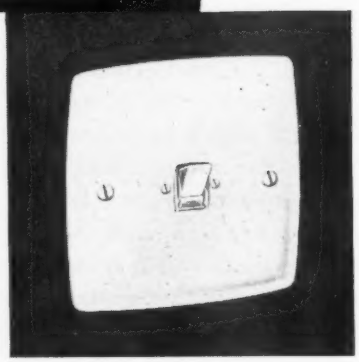
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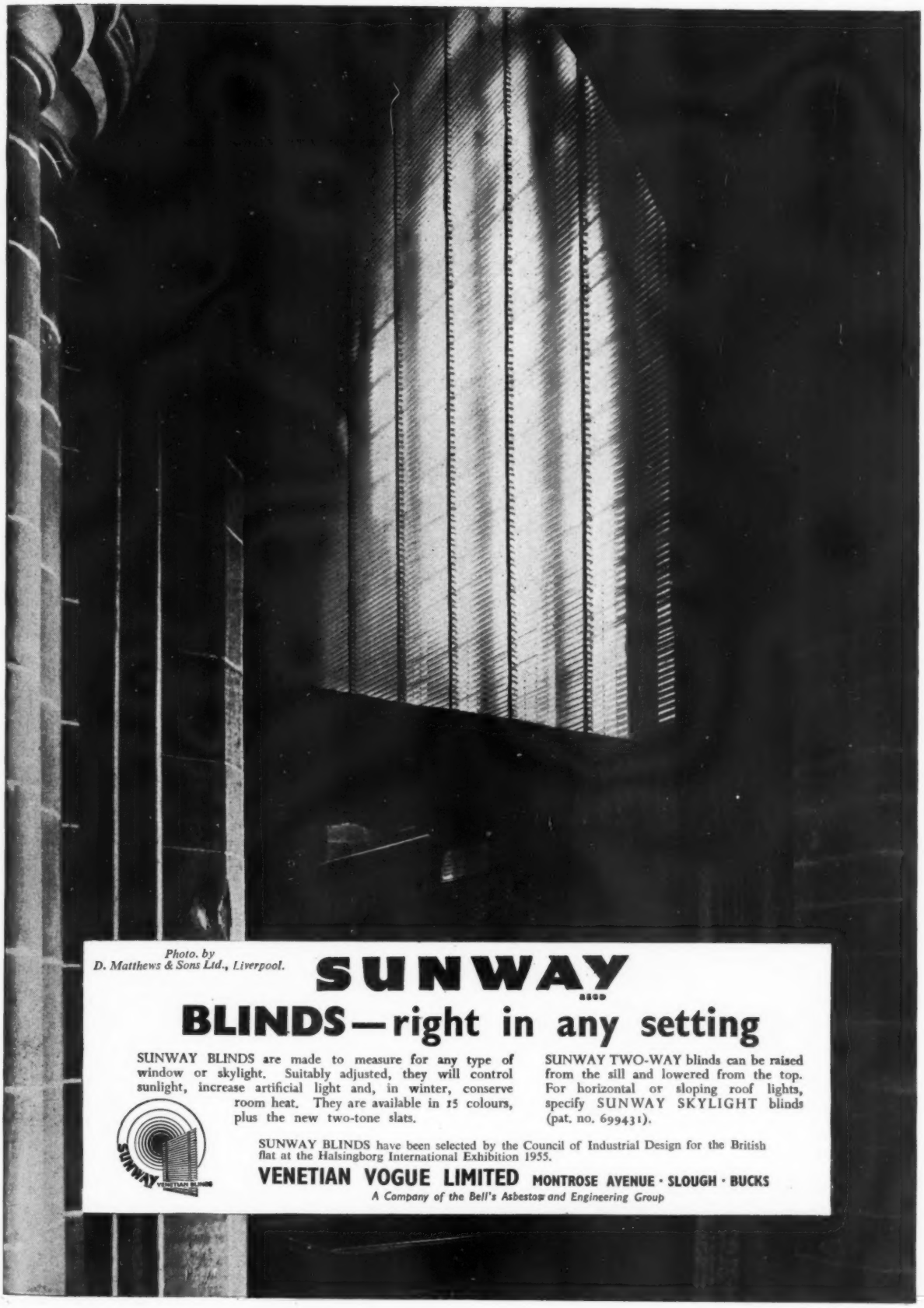


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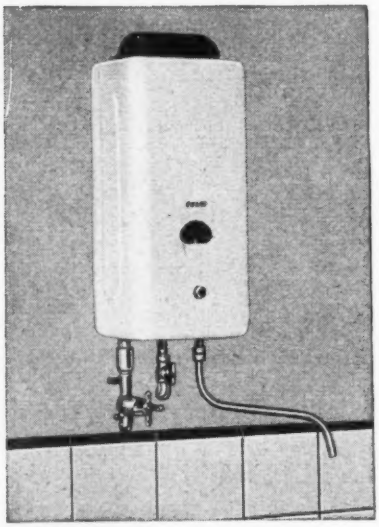
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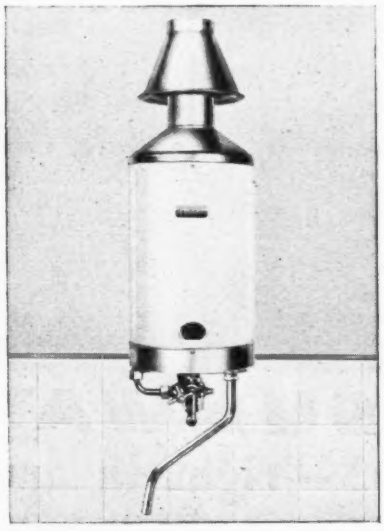
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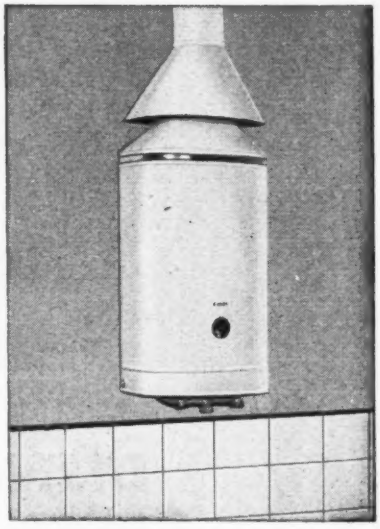
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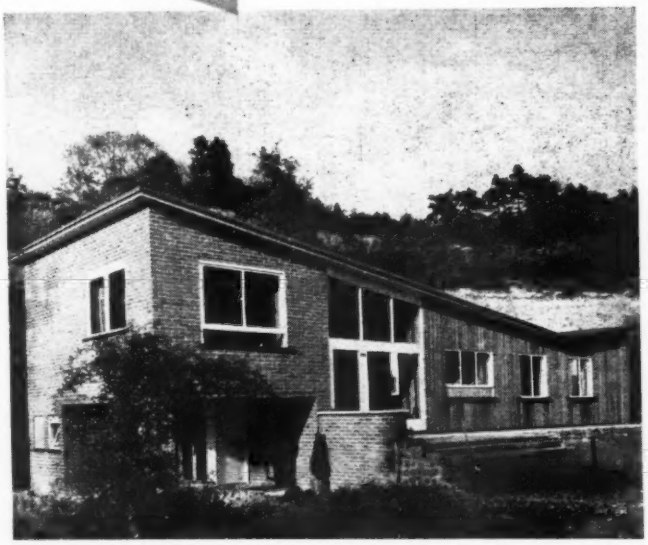
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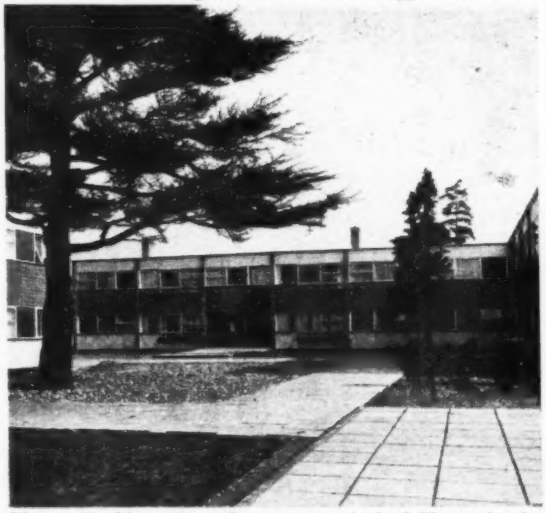
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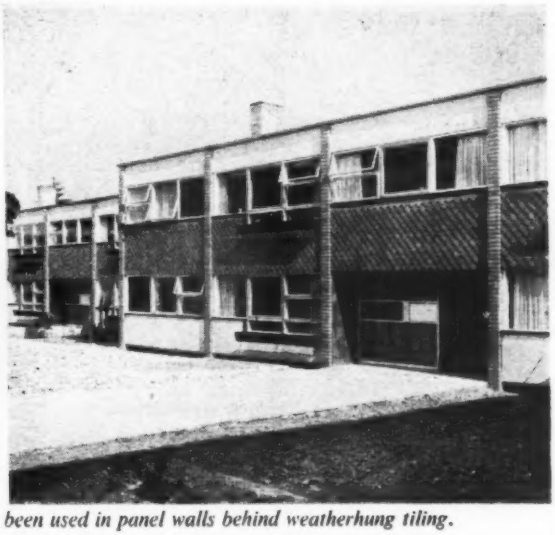


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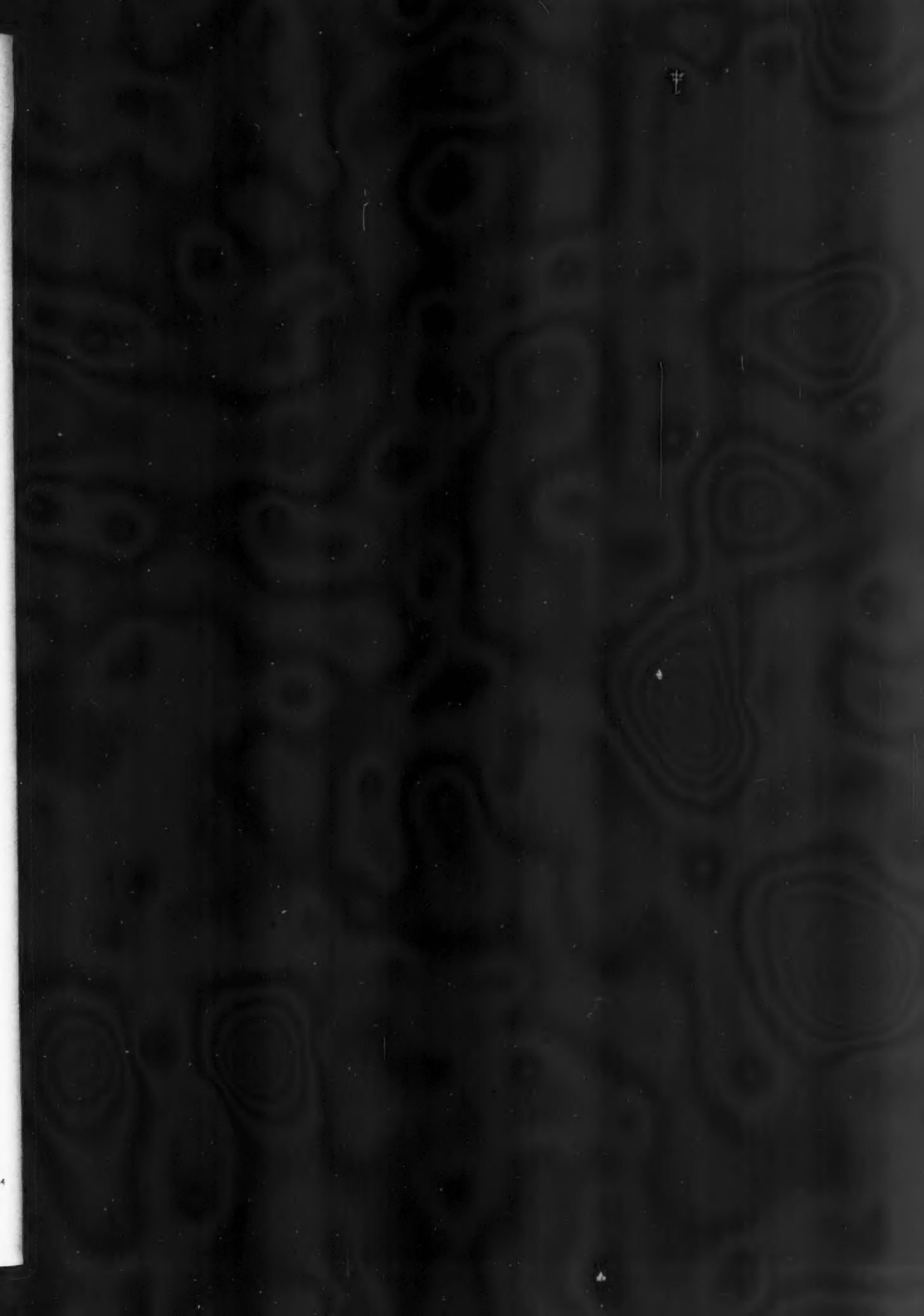
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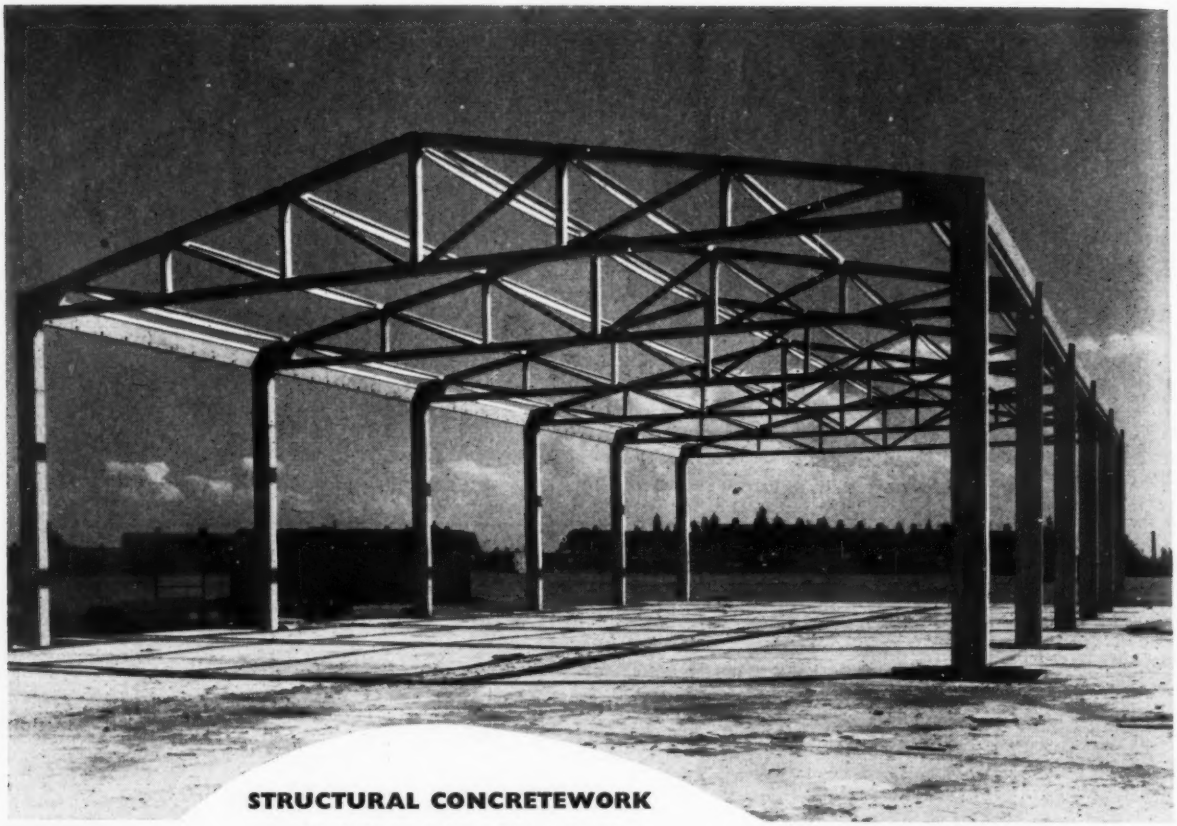
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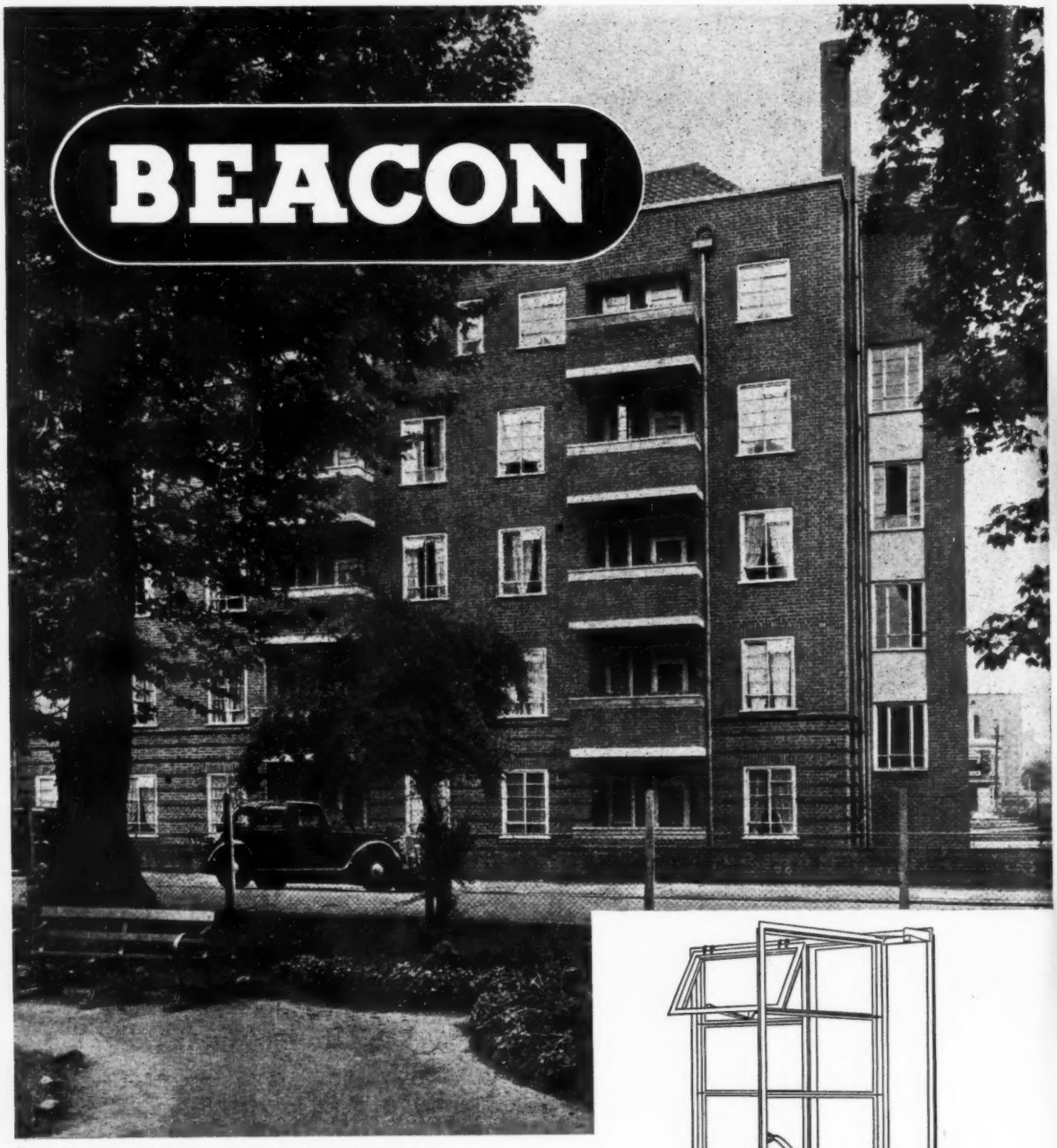
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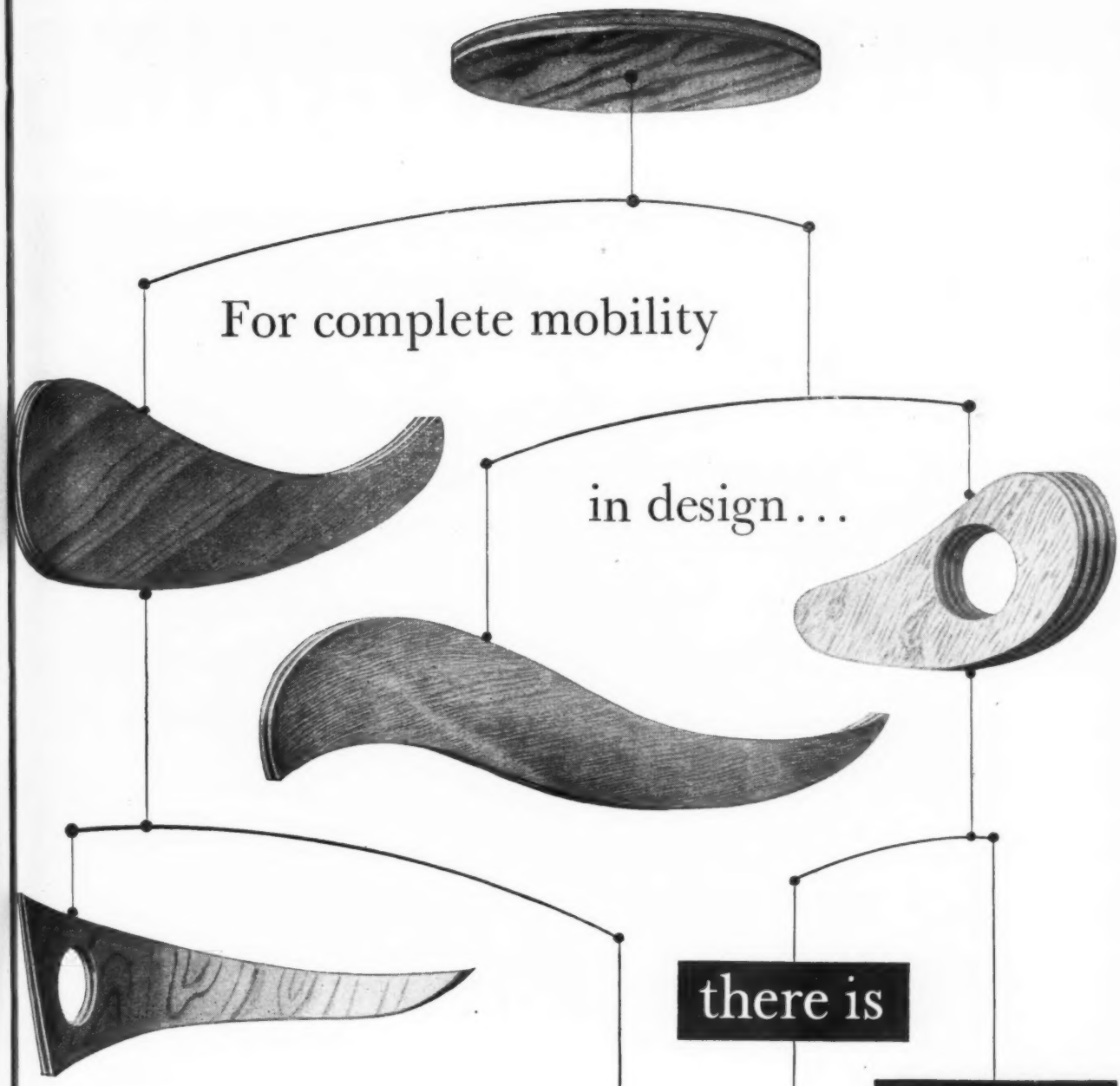


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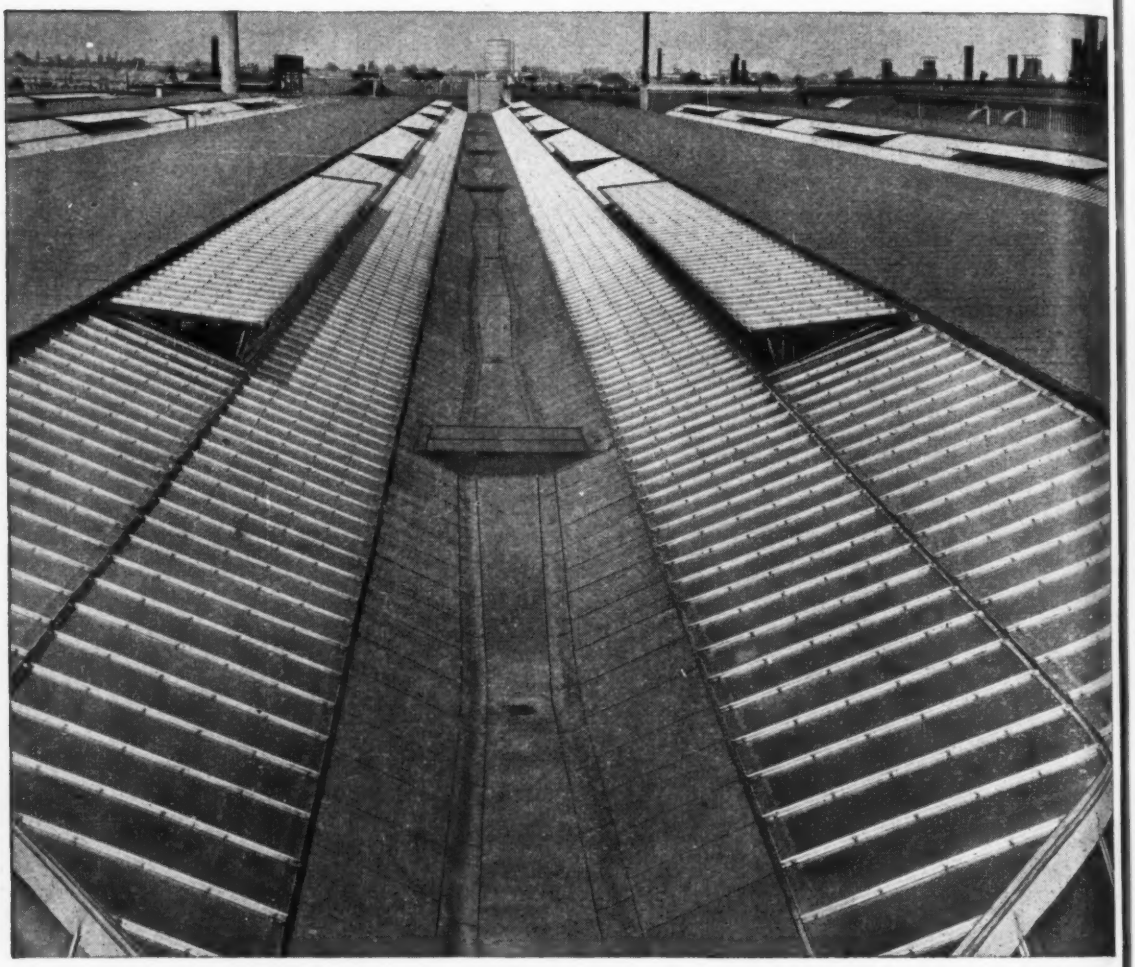
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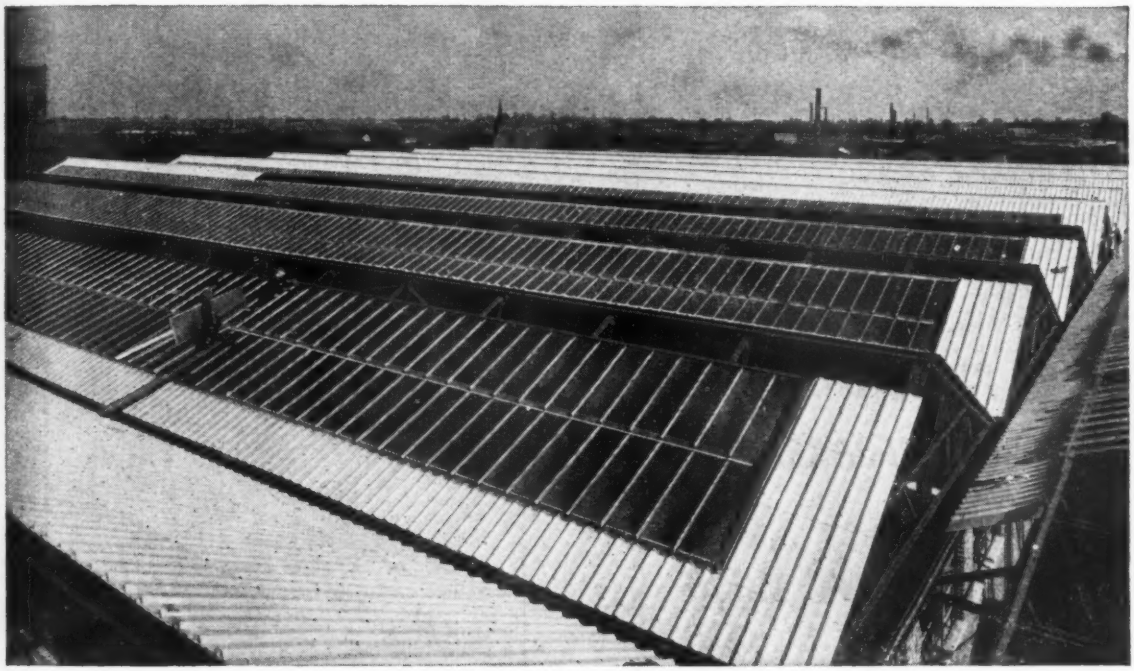
Roof of new assembly shop at Daimler Radford Works. Architects: Wood & Kendrick & Williams, FF.R.I.B.A. Chartered Architects.

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Roof of new assembly shop at B.S.A. Waverly Works. Architect: Holland W. Hobbiss, F.R.I.B.A.

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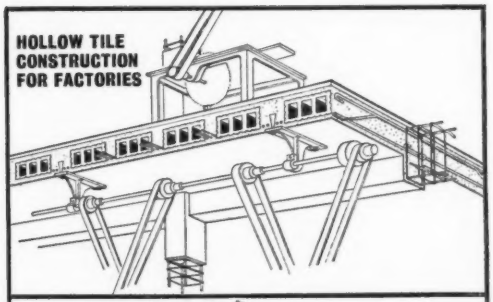
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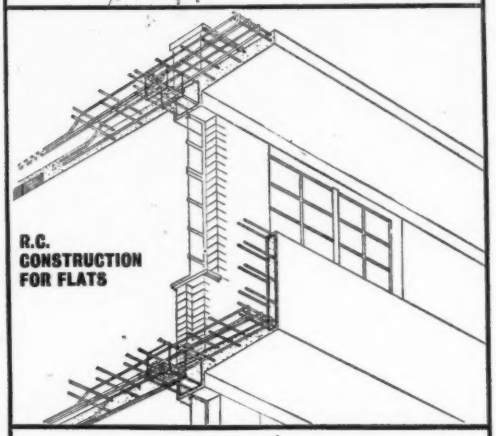
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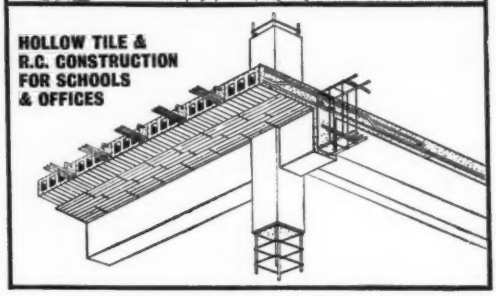
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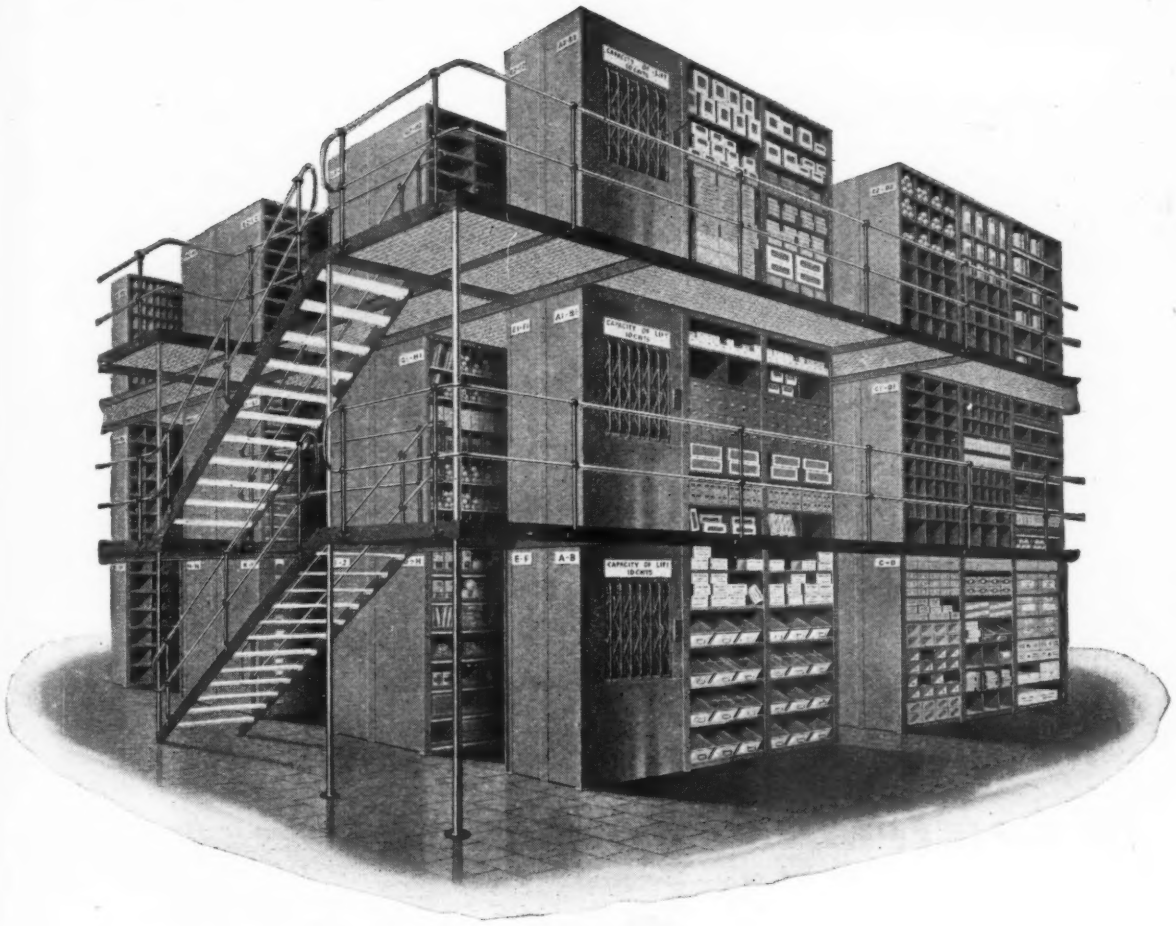


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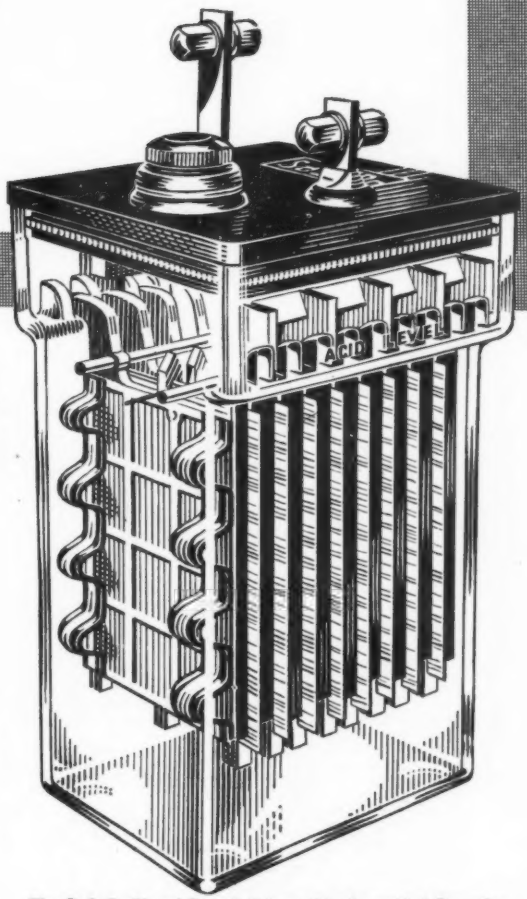
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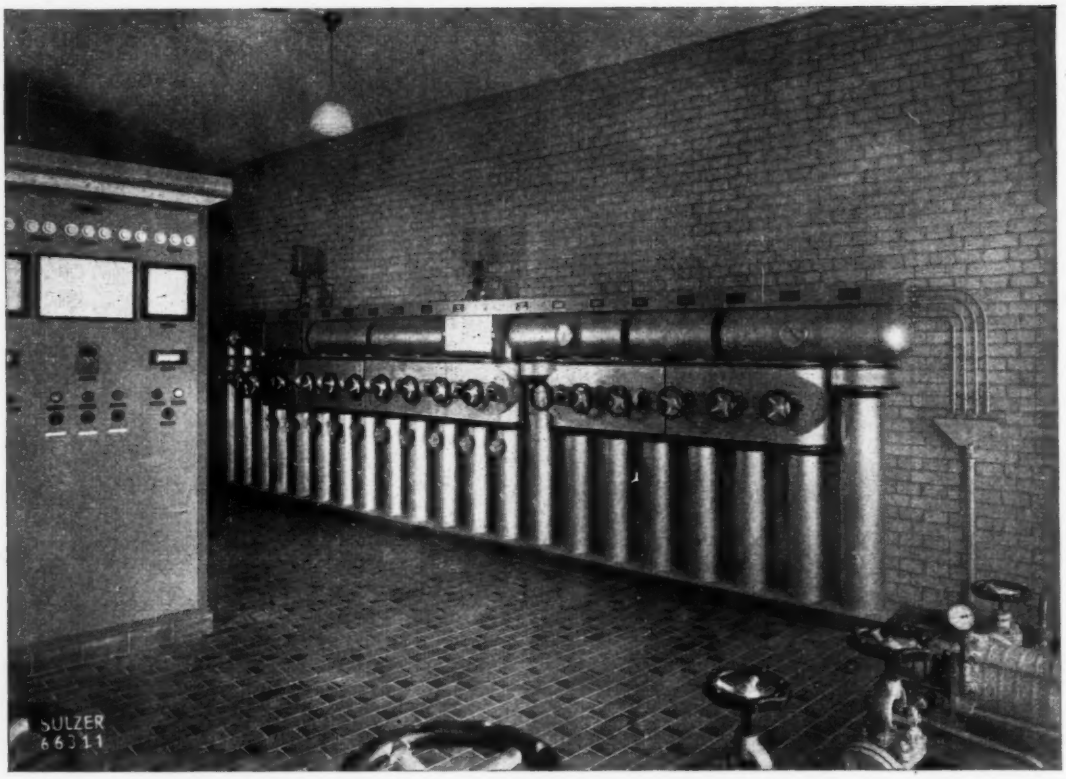
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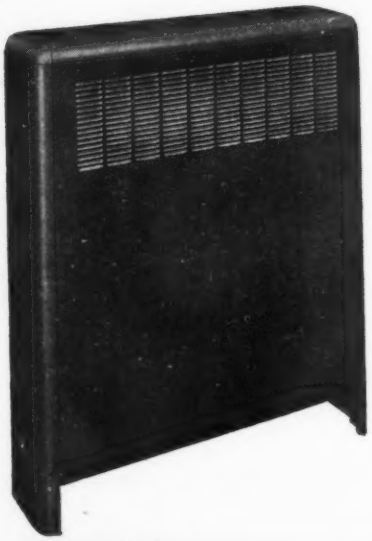
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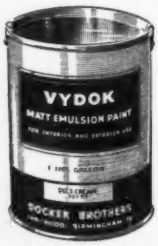
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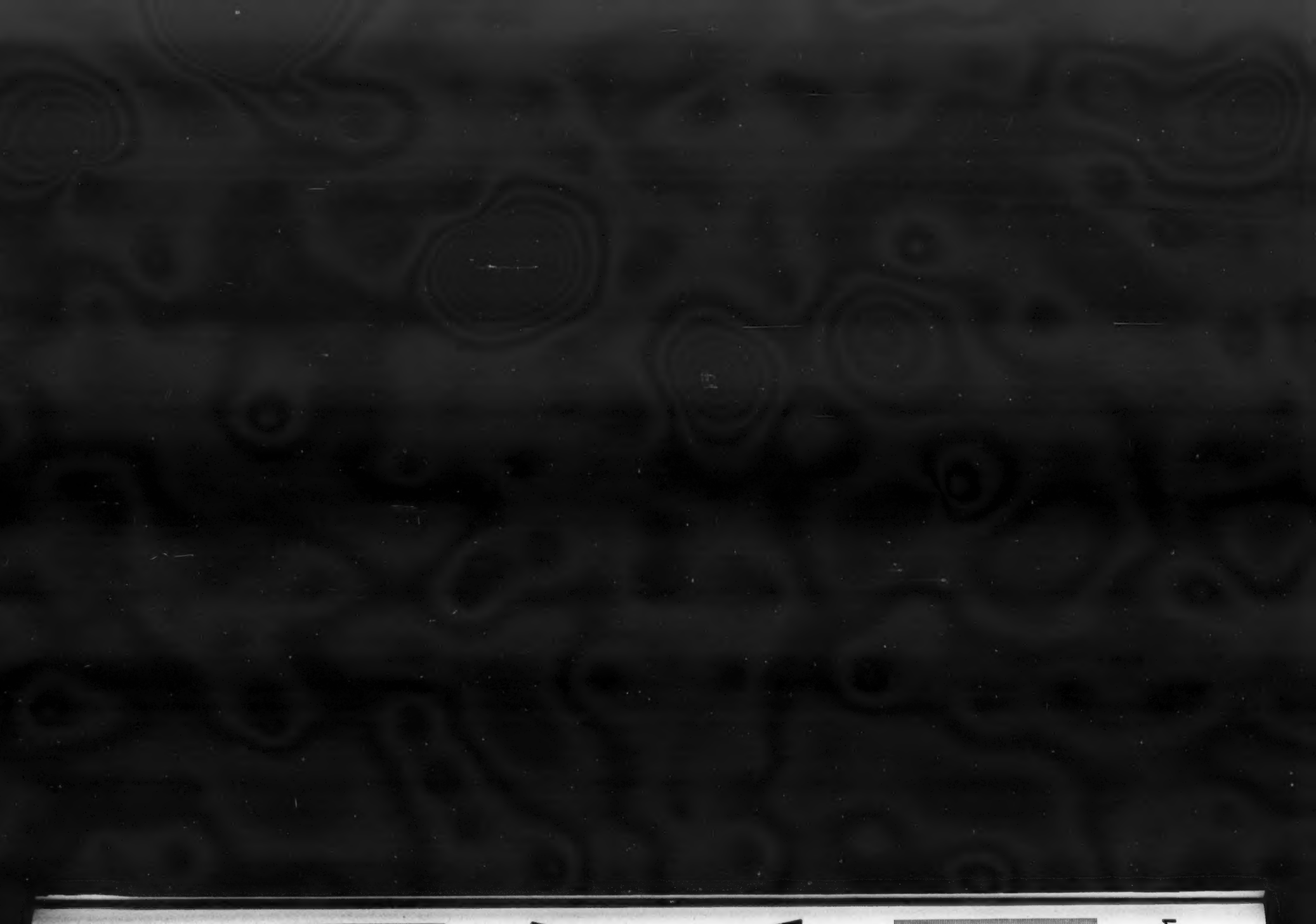
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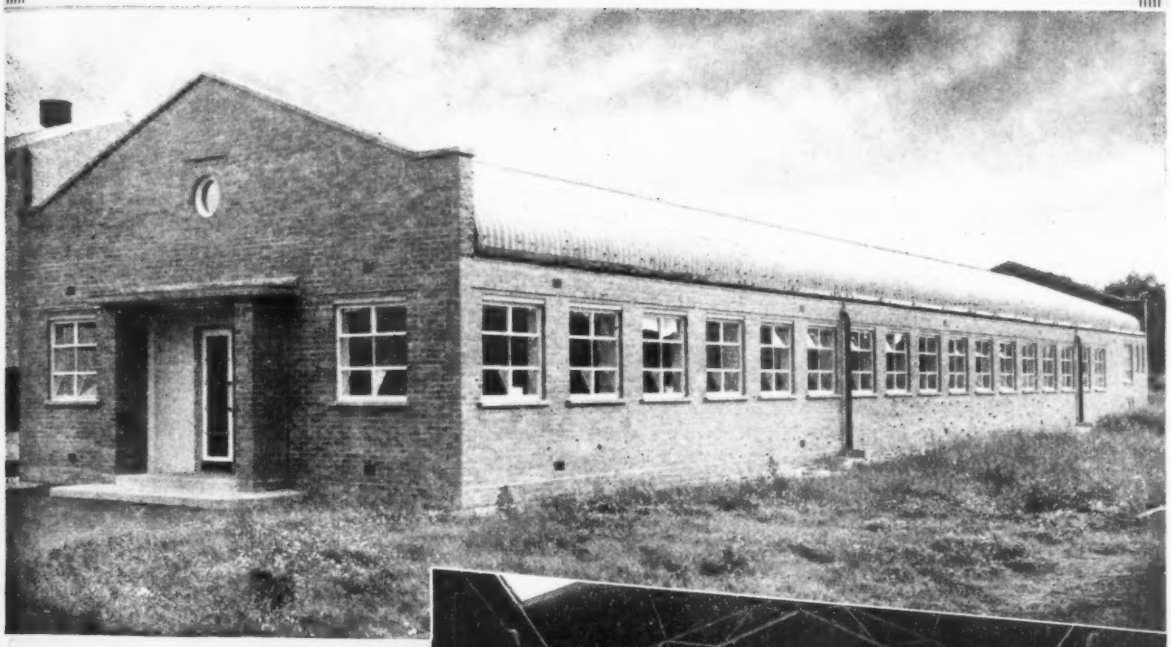
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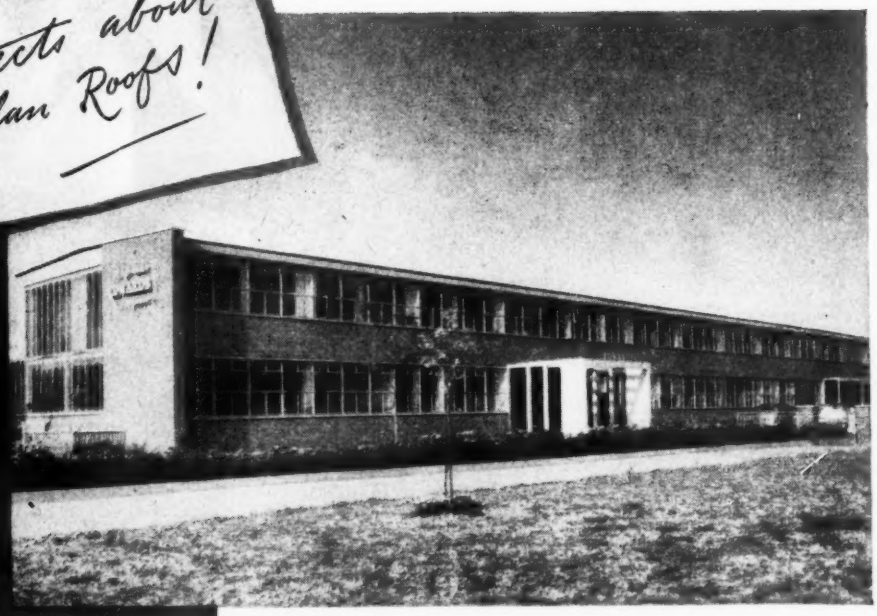
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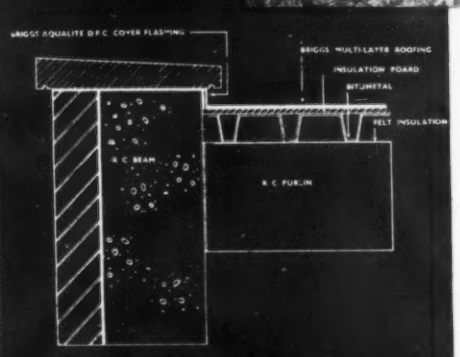
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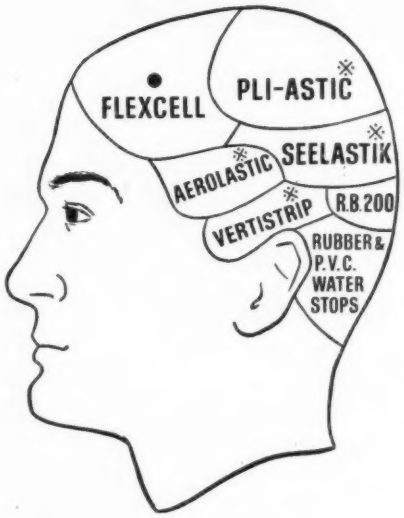
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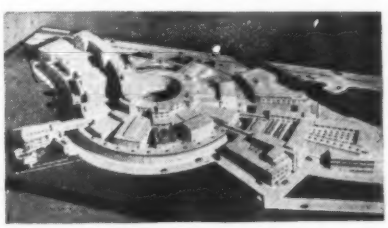
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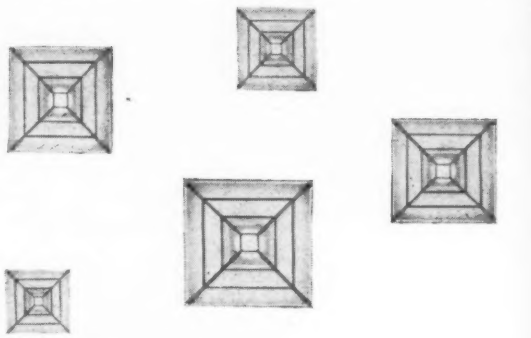
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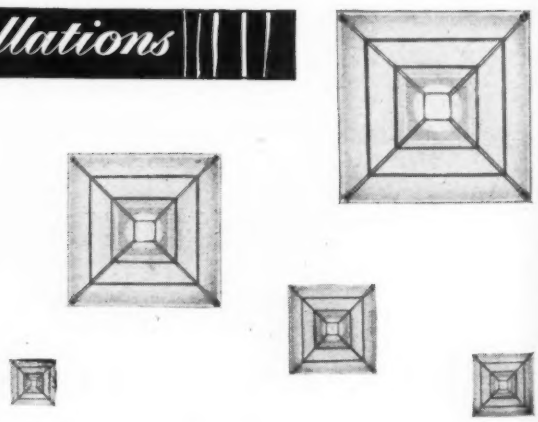
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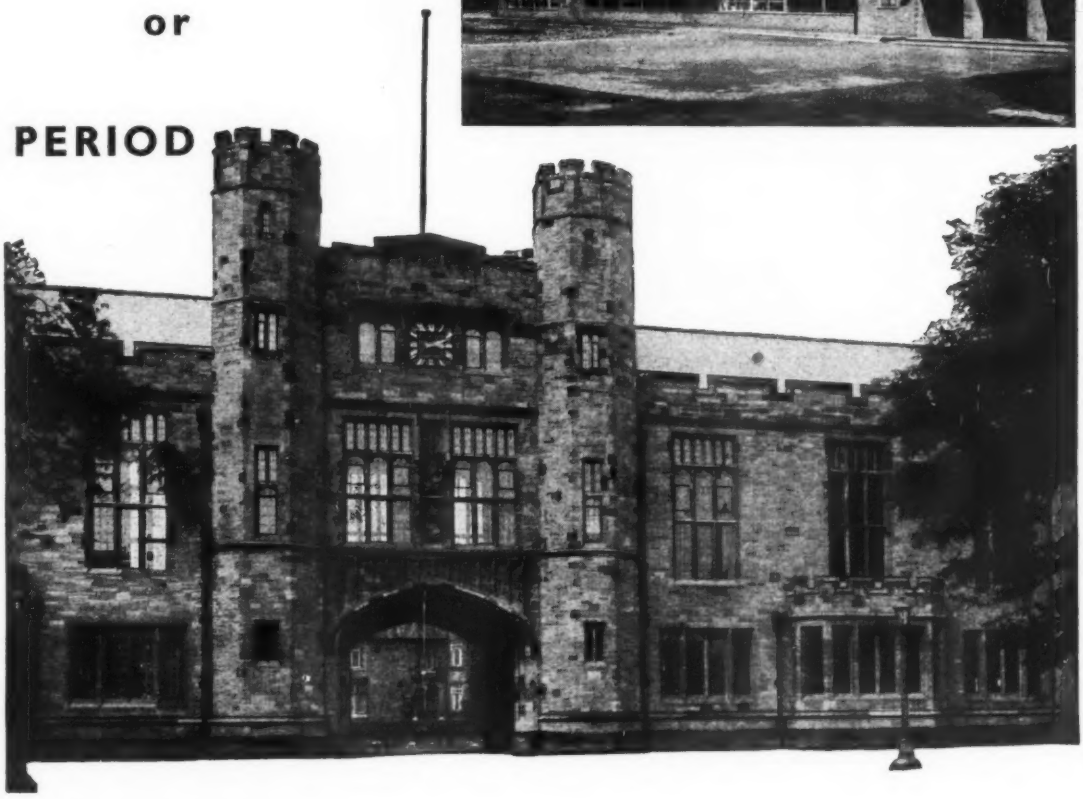
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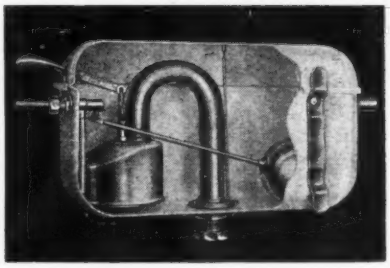
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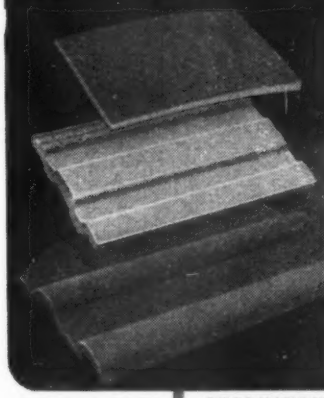
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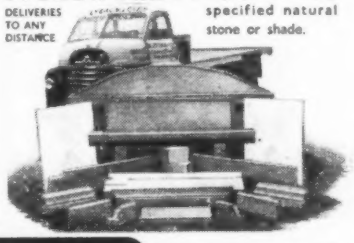
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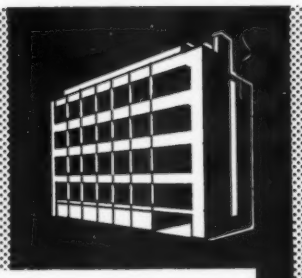
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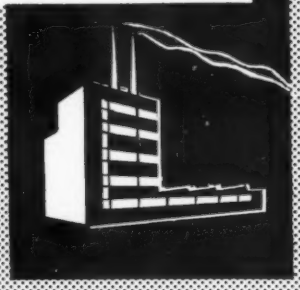


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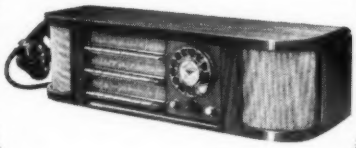
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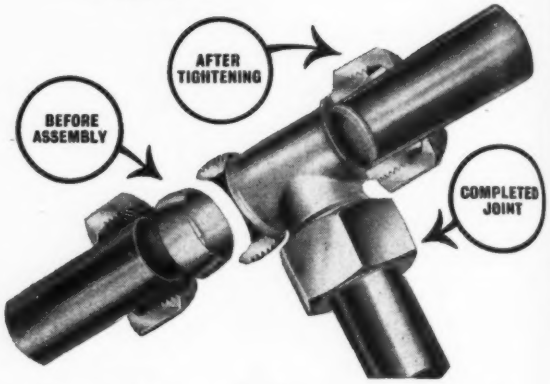
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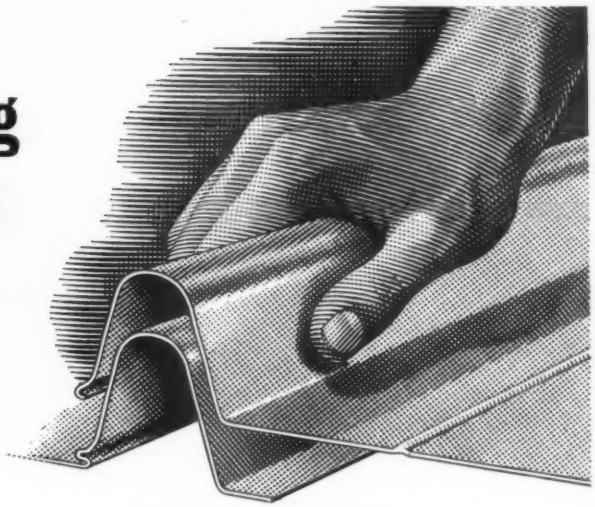
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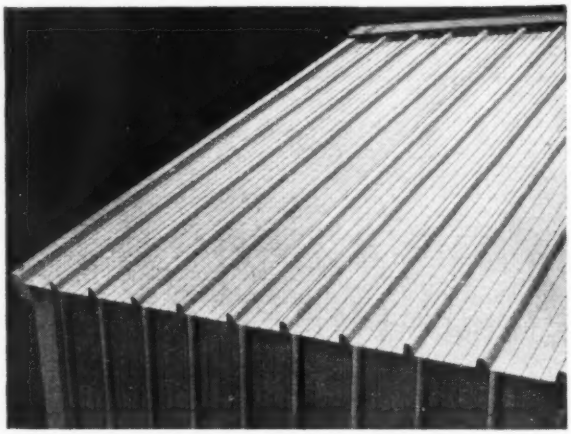
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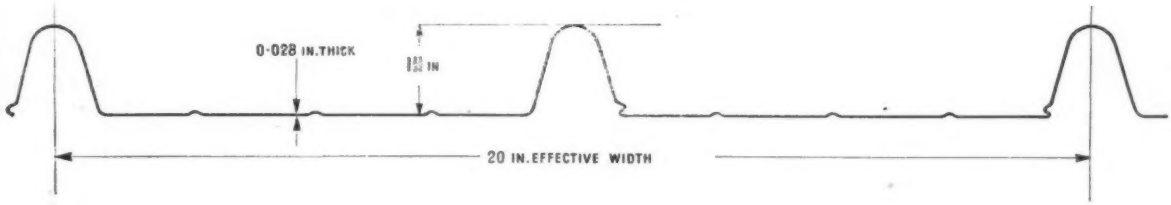
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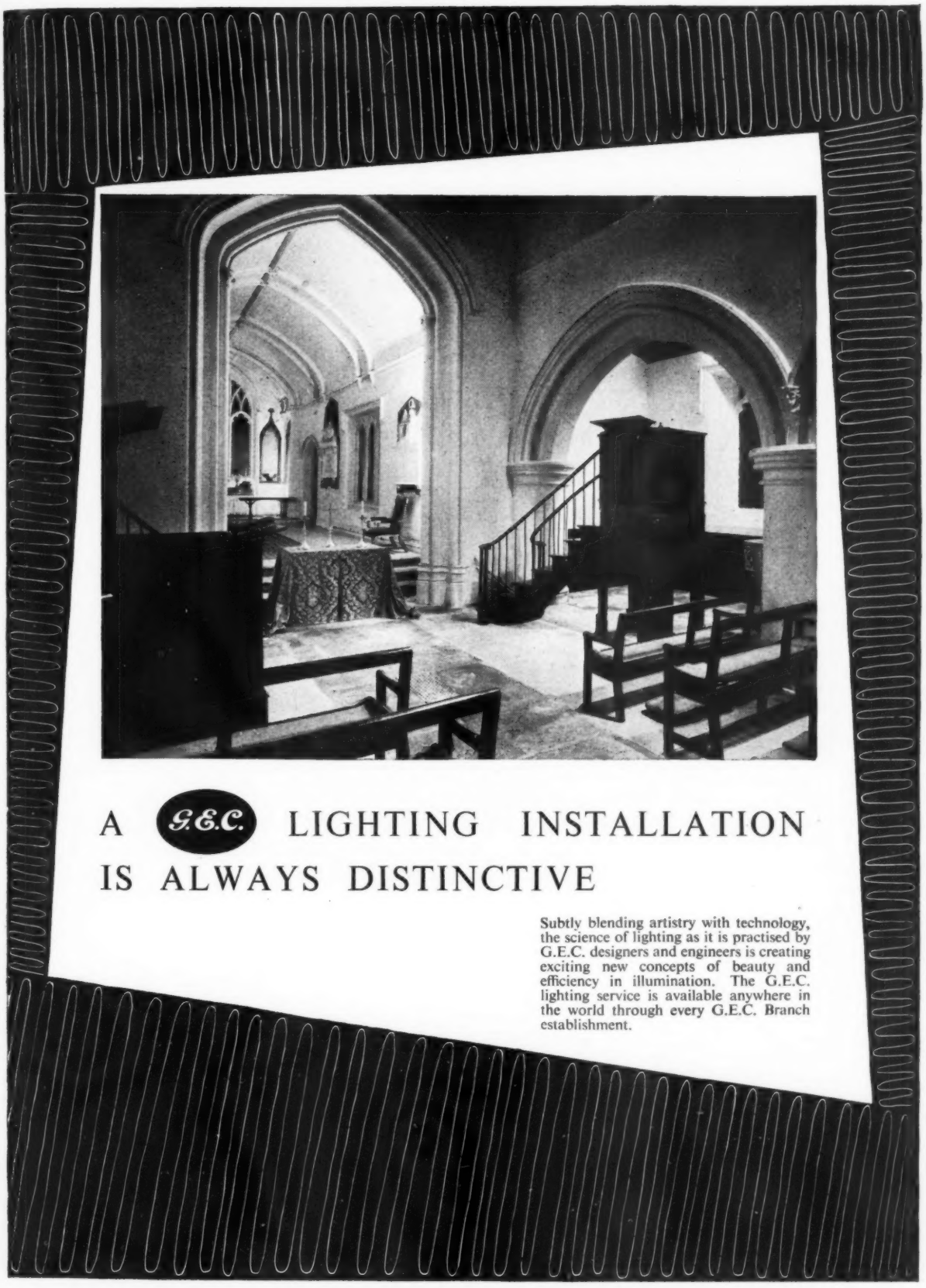
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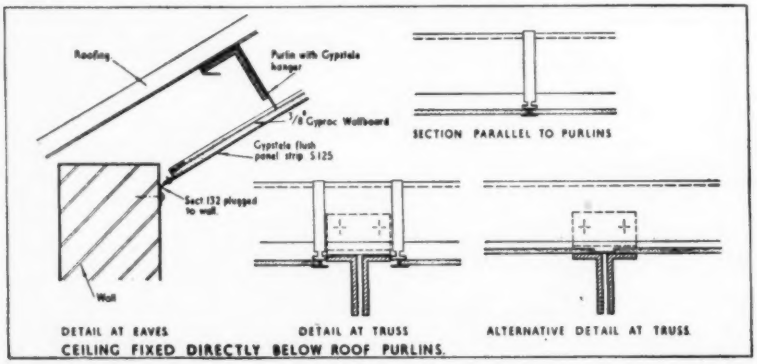
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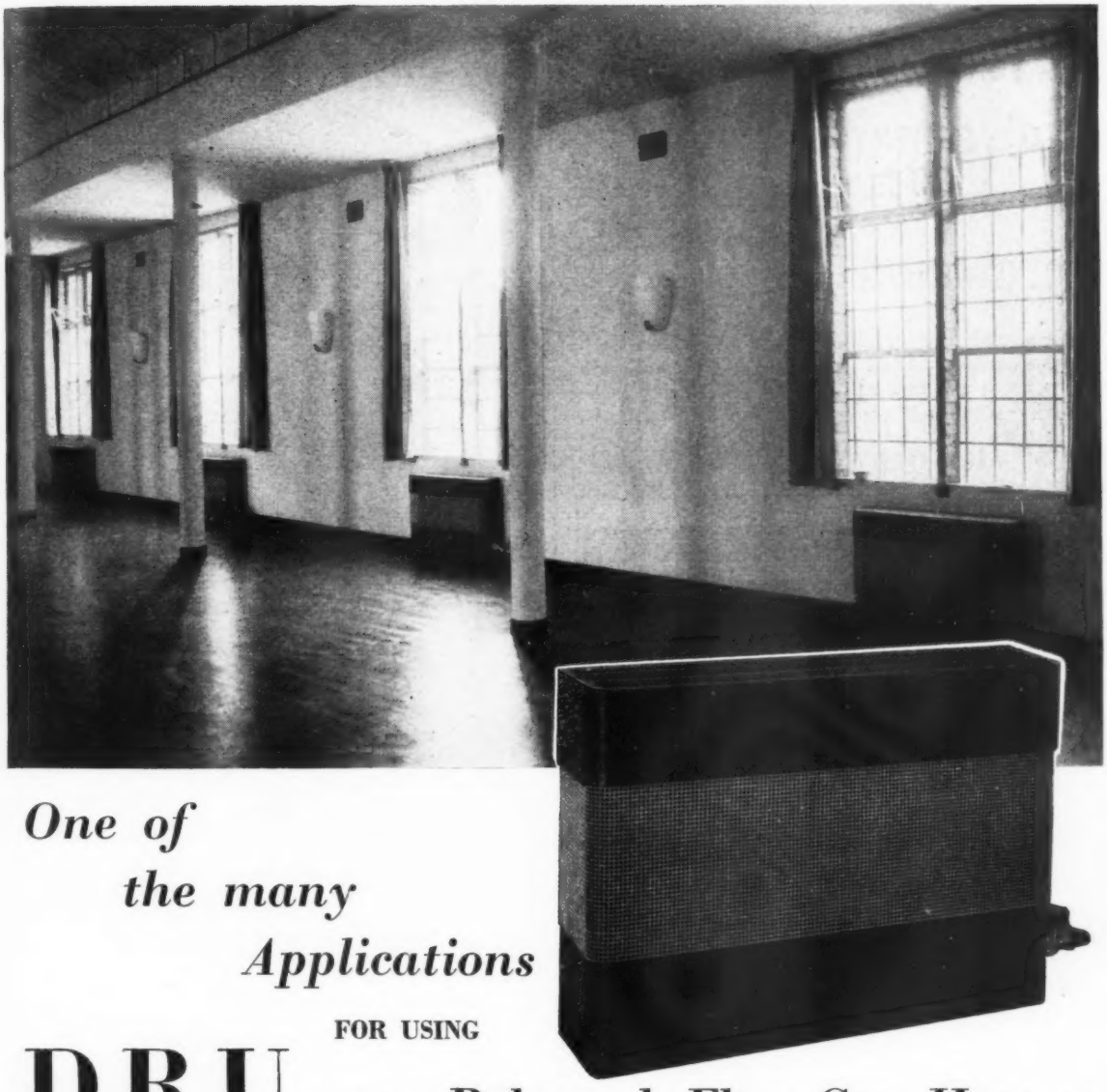
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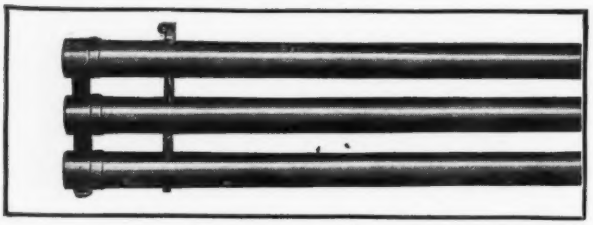
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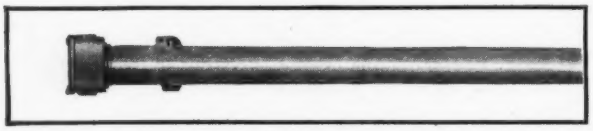
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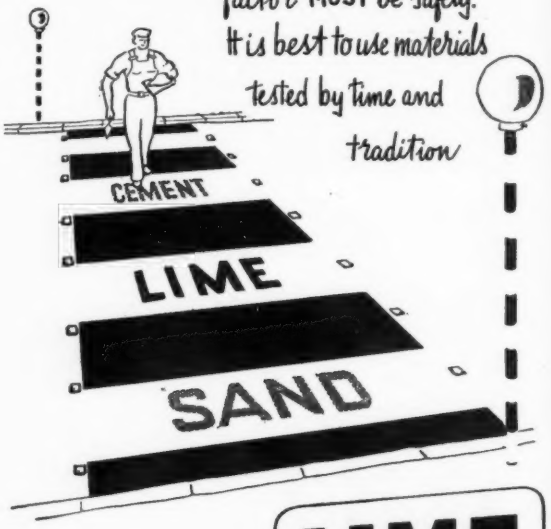
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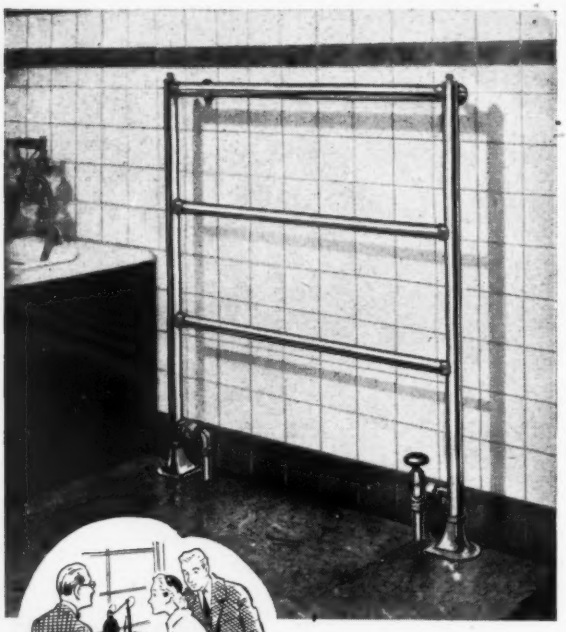


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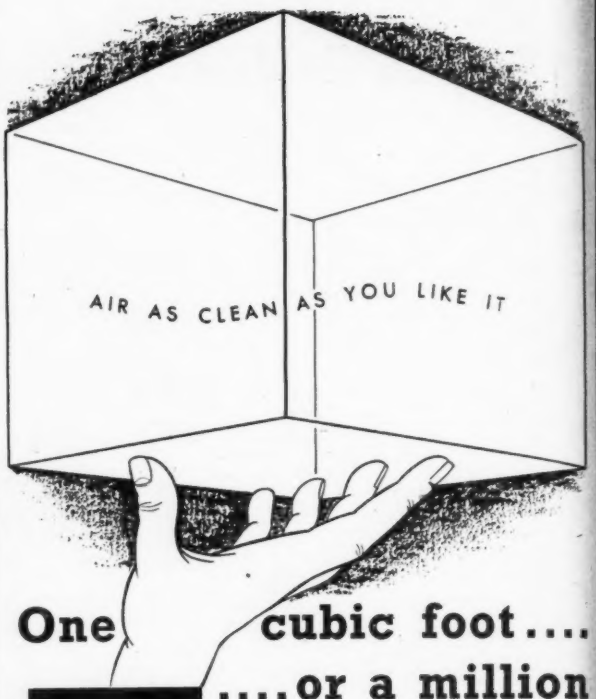
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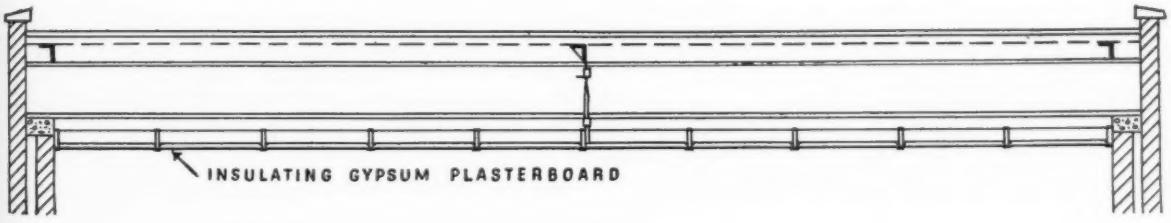


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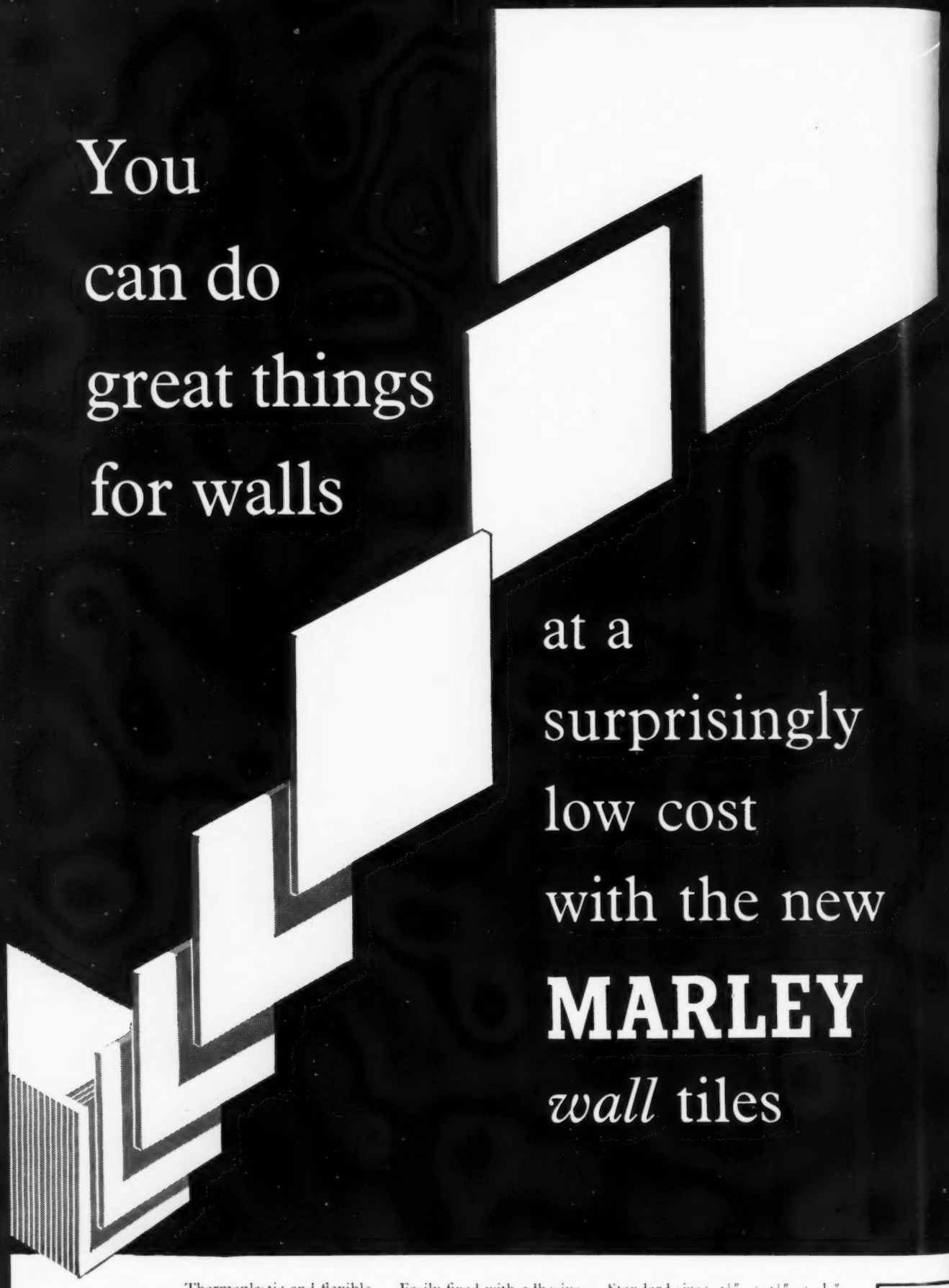
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No. 3162 October 6, 1955 VOL. 122

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ALDWYCH FARCE

The English Electric Company have decided to ignore the results of their competition for the design of an extension to their offices at the Gaiety Theatre site, Aldwych. This was a limited competition and was fairly won by Gordon Tait. English Electric who, if adventurous in the air are apparently cautious on the ground, have now asked eighty-year-old Dr. Charles Holden to design the extension. An early scheme by Dr. Holden for this site was on view at the exhibition of the competition drawings, and it is a very dull design indeed, quite unworthy of the man who, nearly thirty years ago, designed the London Transport headquarters in Broadway. But then, ever since that pioneer effort at modern layout, Dr. Holden would appear to have been retreating into a nondescript neo-Georgian style—witness his recommendations for the St. Paul's area and his London University work in Bloomsbury.

*

The English Electric Company's statement on the issue (see page 450) shows that, despite the best professional advice, they are determined to have peripheral development—which is just what modern ideas on planning oppose on practical grounds. The company should rather try and ensure that Tait's design ties in with the future redevelopment of the whole of the Aldwych site. All those solid structures will be uneconomic and obsolete within thirty years.

*

Another unfortunate result of this action is the bad effect it will have on the competition system. The company has paid for the competition, so it is entitled to do what it likes. But this is yet one more gesture calculated to destroy both professional and public confidence in architectural competitions. One wonders whether the RIBA would agree with ASTRAGAL that the competition system is on its way out now, anyway. And except for churches and monuments, the quicker out the better—at least in its present form.

WITCH-HUNT IN LONDON

At a time when the Foreign Office is the whipping boy of Fleet Street, no sensible person would willingly join the ballyhoo, but the letter in *The Times* from Professor Gardner-Medwin, Mr. England and Dr. Konigsberger really does suggest that there has been exceptional ineptitude in asking " members of the Government Service . . . to consider whether it would be right for them to attend "* the Regional Planning Conference at Bedford College. As the letter says, the FO might at least have first discovered whether the agenda was political or professional.

*

While FO ineptitude may be due to error, *The Spectator* has been merely silly. It says that the Conference is rightly being shunned as communist-dominated. Incorrect, but not in itself silly. What is silly is to judge a conference in advance by the names of a few participants, instead of judging the participants by the conference.

*

The descent from the silly to the infantile comes when *The Spectator* implies that one activity at Bedford College is the distribution of topographical information in the interests of espionage. Everything available to the Conference—as the writer would know if he stopped to think—is either released for publication by public planning organizations or has long been obtainable over the counter from Aerofilms or the agents of H.M. Ordnance Survey.

*

Finally: the things by which the Conference should be judged are a rather dull paper explaining how *un*bureaucratic is TVA; a fascinating account of welfare work in Indian villages; a description of the Volta River Scheme, and also a description of the Health Services in the Polders. Either Dutch

*From Home Office statement.

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doctors are party members or *The Spectator* has lost its sense of humour.

ARE YOU LIKE THIS?

The Central Youth Employment Executive have got out a revised and improved edition of their careers booklet on becoming an architect.* The chief improvement in the new edition is the provision of illustrations which will give the intending (budding ?) architect some idea of the relationship between drawing-board drudgery and the monuments of high art which should result from his labours.

*

For the rest, this new edition remains a praiseworthy, and successful (if not madly appetizing) account of the sort of work the architect does and the sort of qualifications—academic and personal—he requires to carry them out. The introduction is flattering—"... architecture is a very 'live' profession"—but the section headed "personal qualities" will, one hopes, cause some qualms in the hardened hearts of any established architects who read it: viz. "A potential architect should also be able to look at ... buildings in this 'three-dimensional' way," which clearly cuts out old X, and young Y, who have both managed to become ARIBAs without ever producing a facade that related to a plan. "He should also have a reasonable aptitude for applied mathematics, especially geometry"; "An architect's outlook has to be practical as well as imaginative"; "... an architect is responsible for ensuring that good value is obtained for the money spent...."

*

Finally: "Architectural work is not physically strenuous...." What about all that golf with clients, starting vintage cars on cold mornings, exercising the poodle of the girl-friend of you-know-who, raising and lowering venetian blinds, or proving that Espresso machines can be worked by a man standing on tip-toe in a space twenty-four inches by nineteen? Not physically strenuous indeed!

FROM TEES-SIDE ...

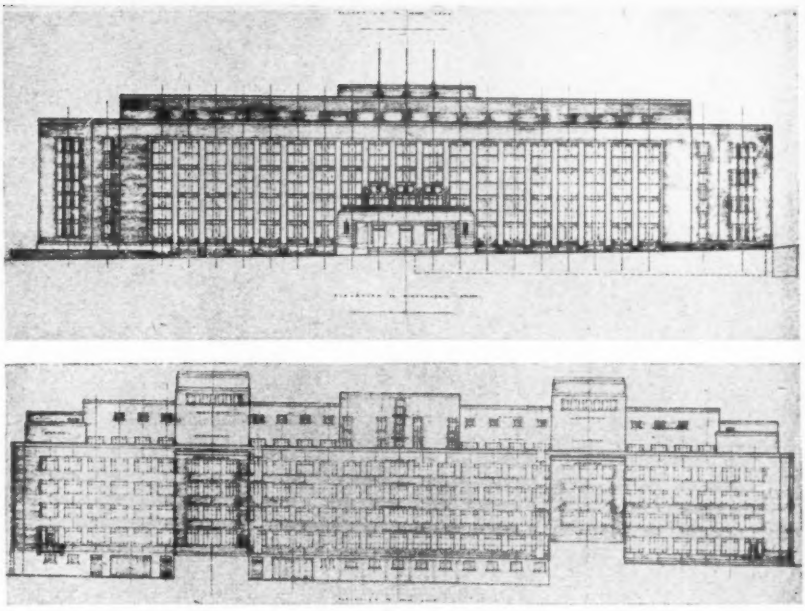
Some young—surely they're young—architects take the editors to task in this week's corespondence column for publishing the recent article on the architects of Tees-side. The impression may be gained by readers that the architecture of Tees-side is of a lower standard than elsewhere in the country. ASTRAGAL has, he knows, the full support of the editors when he states that this is both untrue and unjust. The best work in Tees-side is fully the equal of the best work almost anywhere else in Britain by provincial architects—judging by, for example, Newton Aycliffe and the Middlesbrough schools. The other work is typical of that produced by the rank and file of the profession. It would be very much worse done if architects had not had a hand in it, so we have something to be thankful for.

*

The readers' surprise is no doubt due to the fact that they have become accustomed to the elegantly detailed work produced by a relatively small coterie of architects which normally occupies the pages of most of the architectural journals. Perhaps the JOURNAL should produce more articles on the work of provincial architects in order to combat the false impression which normal standards of publication may create.

... TO LIFFEY-SIDE

But let's turn from this painful probing at the mote in our own eye to enjoying the pained blinks of our friends in Dublin. The illustration this week comes from the *Irish Architect and Contractor* and shows two elevations of proposed new offices for Dublin Corporation, to be sited on the banks of the Liffey. The building is to be ninety feet high, and planned around two main internal courts seventy feet square. It is to cost about half a million pounds.



The proposed new civic offices for Dublin Corporation, designed by Jones and Kelly for a sloping site between Christ Church Cathedral and the river Liffey. Top, the elevation to Winetavern Street. Bottom, the elevation to the Cathedral. (Illustrations from the Irish Architect and Contractor).

*

The editor of the magazine doesn't waste much space criticizing the poor insulation standards, the unimaginative facing of rustic brick and limestone, the setting aside of Abercrombie's recommendations as planning consultant and so on. He craftily asks what the public are to think when a contemporary-style bus station, airport and factory are produced on one hand by the profession—and duly applauded and approved—and on the other hand, for an even more important building, a style of the nineteen-twenty-fives is used. And he demands that the Royal Institute (of Ireland; relax, Mr. Spragg) tells the bewildered public what its views are. That is, whether it is "all that it should be or ... a wild nightmare unworthy of the profession."

*

We have our fair share of rubbish in this country, but it is mainly sponsored by the dimmer forms of private enterprise. No major city in this country,

* Choice of Careers: New Series, No. 16, The Architect; HMSO. 1s.







From South Bank To Shepherds Bush

The slow but apparently relentless permeation of the lessons of the Festival of Britain continues. The body most directly exposed to those lessons, the LCC, which has inherited most of the tangible remains of 1951, is beginning to put them to more and more effective use, particularly through the agency of its Parks Department, whose newest creation, Hammersmith Park, Shepherds Bush, is seen in part above right. (Other photographs can be found on pages 456 and 457.) The combination of informality with a sense of form, a comprehensible plan governing the disposition of apprehensible objects such as seats and plant-pots, rather than an incomprehensible sea-scape of formless waves of horticulture—these are lessons well learned and imaginatively applied. But in some of the details, such as the bridge, top left, one finds a weakening of this sense of form and plan, an unhealthy whiff of Municipal Rustic. And who—in the Parks Department—is responsible for that notice-board ?

down to the level of Cardiff, say, would allow its Corporation to be housed in a building of the type shown here. But bearing in mind the trouble Michael Scott had over his bus station one might well surmise from this latest effort—coupled with the recent church competition fiasco—that the phase for modern architecture is over, or ending, in Ireland. The international brilliance of its intellectuals cannot be expected to survive with only the support of small-minded ecclesiastics and bureaucrats.

THE BOVIS CONTRACT

Everyone knows what is meant by a cost-plus contract (as big a sum as you can make plus a percentage profit). Everyone, that is, except the authors of the article describing the factory at Peterlee illustrated in the JOURNAL recently. In this week's correspondence column Peter Trench, with admirable restraint, points out that the Bovis contract can hardly be described as a cost-plus contract—save in the JOURNAL. We hang our heads in shame. Particularly as the Bovis contract is the one system which is guaranteed to be fair all round. It is the system in which the builder can have the status, and responsibility, of a professional man and is surely the ideal everyone should aim for: architect-builder collaboration, extreme efficiency, economy, and high standards.

COLOR

"Popcorn may not have much taste if eaten on a roller coaster." "When you smell oil of geranium your violet sensations are depressed, your green enhanced." These are two of the many hundreds of similar facts—some of them more useful, some just as useless—which Faber Birren, colour consultant to the U.S. Navy, has accumulated in *New Horizons in Colour*.* There is very little about colour, except why some of it is good and some of it is bad, that Mr. Birren doesn't know. It is all here—a vast store of information about how to increase production by painting the office, about colour systems, about colour in factories, schools and shops, plus a lot of pseudo-science.

*

An amusing book, and possibly a useful one, although on the whole BRS do it better.

*Reinhold. 80s.

ASTRAGAL

POINTS FROM THIS ISSUE

The **Gaiety** site: competition designs ignored pages 443 and 450

The **Bovis** contract: a correction page 448

More letters about **Tees-side** page 449

Planning: the inside story page 458

Oil for domestic heating page 469

The Editors

RENTS AND SUBSIDIES

MOST Western European countries have still in force some war-born system of rent control of housing, and each of them has had to face the consequences of an ever-widening disparity between "controlled" rents and "economic" rents, calculated with reference to ever rising building costs. The great variety of policies adopted, none of them so far successful from all points of view, suggests that the problem is not easy to solve; further, that our troubles are not solely due to the ineptitude of a succession of weak-willed British Governments, as some critics seem to suggest.

Rents, and for that matter rates too, are by now such a hodge-podge of anomalies that if any drastic change whatever were made in their incidence and structure, it would cause hardships, legitimate grievances and protests. Everyone realizes that something needs to be done. But it hardly seems to be fully grasped that almost *any* change, however carefully carried out, is liable to leave some individuals worse off (unless, indeed, in the current controversy the Government were to change its tack and announce an increase, not a decrease, in the total of subsidies). A tenant of a council house who suddenly finds his rent put up because he "can afford" it is bound to feel aggrieved; for he may well feel, supposing that his income has in recent years been increased, that he is being singled out and taxed for his success. Or if he took on the council house, being at the head of the local housing list, a few years ago, after careful family budgeting on the basis of the existing subsidized rent, has he not cause to complain if his planning is upset, by the council withdrawing from what seems to him a moral commitment?

So let it not be thought that the last word has been heard yet on this issue, however "obviously" fair Ministers may think the re-assessment of rents to be, and however much in principle (but not in detail) public opinion may concur that the time is ripe for reform. Reform cannot proceed fairly if it is not based upon knowledge; nor will it be acceptable unless it is seen to be based upon knowledge, and upon judicial enquiry. It would seem essential that before council rents are re-adjusted piecemeal up and down the country, some national enquiry into the whole rent-rates situation for private as well as public housing, be undertaken. Only then could a reasonably acceptable line of national policy be laid down.

more effective use, particularly through the agency of its Parks Department, whose newest creation, Hammersmith Park, Shepherds Bush, is seen in part above right. (Other photographs can be found on pages 456 and 457.) The combination of

For all these individual hard cases are liable to add up to a large, aching public grievance if the individuals concerned, and people generally, are not made clearly aware that the new situation will be juster, and much more sensible than the existing hodge-podge, anomalous, inherited muddle. So far the public has not received the necessary information. They do not know what the policy really is, where it is leading, or what it is based on; they do not know because Ministers do not know, or are unwilling to tell.

There is the almost laughable possibility that policy is based on no more than the doctrinaire predilections of the Conservative Central Office's long-haired intellectuals. These gentlemen have long preached the doctrine of the blessedness of charity, and the thriftlessness of the working class. Subsidize the aged and the sick (" Thank you, good sir! Your kindness has lightened my old age! "), but let not a penny of middle-class dividends be taxed to improve the lot of the improvident workers. Why, every penny the wage-earners spend is inflattionary! Kill two birds with one stone, and mop up their little surpluses by higher rents. This is a caricature ; but not a violent one. But the policy will not stand up on this basis. Voters do not like doctrinaires of the right any better than doctrinaires of the left.

Some rents may have to go higher; but so should some rates. When complaining of the working-man for accepting a subsidy which was, after all, voted for him by all parties, why is there so much silence about the richest five to ten per cent. of the community, whose wealth is drawn mostly from the towns and cities, but whose rates are mainly rural? They draw a subsidy in effect from our obsolete local taxation system.

What goes out of the ordinary man's pocket (whatever class he belongs to) is the sum of rent and rates. National reform of the one is nonsense without national reform of the other. The two must be examined together and assessed together (incidentally, those who argue that rents could never be assessed nationally because of administrative difficulties seem to forget that every property in the country is assessed for rates, on a supposedly equated basis of valuation).

It may be that, after enquiry, the Government should decontrol some properties from rent control (and maintain, or even tighten, control over others), but wholesale decontrol, and wholesale local re-assessment of publicly-owned housing rents, is no answer to the problem; it must lead to different, but probably just as great, anomalies as now exist. There is, too, the central and essential problem of how best to induce landlords to maintain and improve their property. The 1953 Act has not sufficed, as many property owners, and other critics, foresaw when it was passed.

There is a mighty task of overhaul and readjustment to be done. There are, too, the old problems of slum clearance, and siting of new housing estates, still nowhere near a satisfactory solution. How can one hope to tackle these issues without a comprehensive economic, financial and architectural survey of the problems that exist?



P. E. Trench, Managing Director, Bovis Ltd.
Ward Shennan, L.R.I.B.A.
Sherban Cantacuzino, M.A., Student R.I.B.A.
H. J. Lane-Davies, A.R.I.B.A., *Ian C. Kirk*, *Basil H. Taylor*, A.R.I.B.A., and *J. R. Davison*
John Swinden
Derek H. Richards
dennis berry, A.R.I.B.A.
Malcolm Michell, A.R.I.B.A.
Donne Avenell, Editor of "Architecture and Building"

The Bovis Contract

SIR,—Would you please allow me to comment on the article in your issue (Sept. 15) concerning the factory built by my company at Peterlee.

You describe this project as having been carried out under the "Bovis Cost-Plus Contract." Cost-plus is generally accepted as meaning cost plus a percentage on cost: may I therefore correct any impression that your readers may have gained that the Bovis Form of Contract is of this type. The Form of Contract itself has been adequately described in your JOURNAL on several occasions and its merit is that it reverses the incentives of the generally accepted cost-plus contract, a form of contract which would find little, if any, support today.

My second comment concerns the cost analysis on page 365. I do not understand the statement that "a complete cost analysis cannot therefore be obtained" because our special Form of Contract was used. On the contrary, I would have thought it easier to analyse the cost under a system where all costs are open to the quantity surveyor than where a builder is under no obligation to reveal actual cost figures.

This leads me to my last comment which concerns the pitfalls into which the unwary reader may fall if all the circumstances of a project are not made known to him. In this case the cost per square foot stated for the building not only allows for site abnormalities and administrative buildings as well as factory space, but includes 9s. 6d. for special requirements of the tenants.

I hope you will not consider this as criticism of the accuracy of the article as a whole: this was excellent, but people are apt to make false deductions from false pre-

mises. The fact that you so kindly show that we made a good saving on the estimated cost puts you beyond the bounds of criticism: anyhow by me.

P. E. TRENCH.

London.

[We very much regret the error of describing the Bovis contract as "Cost Plus." In case some architects are unfamiliar with the Bovis Form of Contract we publish below a brief description of it:—

The Bovis Contract is a Fee Contract whereby the building owner pays the net cost of labour and materials as reported and certified by the Quantity Surveyor together with a fee to the builder to cover overheads, plant and profit. The builder's fee can be fixed in advance or based on the Quantity Surveyor's estimated prime cost. It is not based on the actual cost.

His incentive to economy results from the fact that the lower the expenditure on materials and labour in relation to the agreed estimate, the higher proportionally is his fee.

While in this type of contract the owner carries contingency risks, he has greater control over speed and cost than is possible under normal contracting procedure. It enables the architect, quantity surveyor and contractor to work together from the beginning and plan the cheapest way of doing the job, and it makes possible an early start.

With regard to Mr. Trench's second point, that with the Bovis contract, where all costs are known by the quantity surveyor, the cost analysis should be more easily prepared than with other forms of contract, we wrote to the architects, William Holford and Partners, whose reply (signed by Ward Shennan) is given below.—ED.]

SIR,—The cost analysis provided in your article is an analysis of the FINAL cost, not as in so many of the other projects reported in the JOURNAL, an estimated final or hoped for final cost.

The item under general builders work 9s. 5¼d. could not be split up over the separate units making up the contract (*i.e.* office block, sub-station, boiler house, loading and unloading bays and main factory area) so that a cost analysis of each block was not accurately obtainable.

With regard to the latter point raised in Mr. Trench's letter, a figure of something between 10s. 8½d. and 12s. 9d. per square foot was for special requirements of the occupiers, and a note should have been made of this point.

WARD SHENNAN.

Liverpool.

There's Nothing To Be Avant-Garde About

SIR,—In your editorial on the COID in your issue of September 22, you surprisingly support a theory that is surely invalidated by historical fact. I consider myself to be one of your readers who "genuinely wish for better standards of product-design." I cannot see how the COID could do anything but "propagate something called 'contemporary'," which is most certainly a "fairly coherent style." You cannot expect the COID to be an avant-garde body. There is nothing today to be avant-garde about. Moreover there is no such thing as good design without style.

In the last thirty years we have developed a style which we consider to be the result of better reasoning and clearer thinking than that of our predecessors, and which owes not a little to Professor Gropius's Bauhaus.

SHERBAN CANTACUZINO.

London.

[There is a difference between "having a style"—which is unavoidable—and "pursuing a style"—which should be avoided like the plague. As for "propagating a style"—that could be spreading a plague.—EDS.]

The Tees-side Issue.... A Sad Truth

SIR,—The JOURNAL is probably the most widely read technical publication representing the profession. As such, it presumably provides a fairly reliable indication of the current trend in contemporary design. If this is so, your article on the architecture of Tees-side (September 22) represents a sad but unavoidable truth. If not, we can only express our deepest regret that it was published. The issue in question may do the profession a great deal of harm.

H. J. LANE-DAVIES, IAN C. KIRK,
BASIL H. TAYLOR, J. R. DAVISON.

London.

An Absolute Disgrace. . .

SIR,—I should be obliged if you would give me fair warning when next you produce a JOURNAL dealing with the work of Tees-side architects, so that I can save my money. This production is an absolute disgrace.

JOHN SWINDEN.

Chessington.

. . . . "I Was Shocked"

SIR,—After recent first-class issues of the *Architectural Review*, I was shocked to find in this week's JOURNAL that you had devoted a whole issue to the appallingly bad examples of "architecture" as exhibited by the architects of Tees-side. I put the word in inverted commas as it is practically a sin to call this work architecture.

I fail to comprehend the purpose of this issue unless it is to degrade architecture still further in the public eye, a policy which appears to be contrary to the oft-stated one in the pages of the JOURNAL and *Architectural Review*.

I trust you will endeavour to raise the standard of the JOURNAL in forthcoming issues.

DEREK H. RICHARDS.

London.

. . . .Made Me Hot All Over

dear sir how unkind of you to publish all that stuff last week it made me feel quite hot all over i do hope your architects magazine is not published overseas as i have many nice friends abroad what i write to about architecture and now they will probably laugh at me and what about all them students i do think it would be better if you go back to publishing buildings by clever architects like from italy rotterdam and new zealand and we can carry on pretending then if you want to have a bit of fun pop one in from russia old style of course but i do think it was mean of you yours truly dennis berry

London.

Dance Floors

SIR,—In connection with a building I am at present designing, my client has requested that, as the hall will be used frequently for dancing, a sprung floor be provided. My own researches into the question of dance floors have revealed little evidence that, as yet, a really suitable solution to the problem has been found.

The various types at present in general use can be classified as follows: (*a*) The fully sprung floor as produced by various specialist firms; (*b*) The diagonally braced wood floor (*e.g.*, as used in Mecca ballrooms); and (*c*) Hardwood blocks, etc., laid on concrete.

While (*a*) offers the correct degree of spring as long as the loading agrees with the design factor, in practice the loading so fluctuates that the system is only partially efficient. Added to this is the high cost of installation. In (*b*) the initial cost is considerably less, but the amount of resilience is largely a matter of luck, depending solely on the spacing of the joists and the deflection factors of the various members. The rigidity of (*c*) renders it quite unsuitable as a dance floor.

A dance floor should have just that degree of "springiness" to prevent feet becoming unduly tired. With timber again available I see no reason why further research should not evolve practical solutions to this problem. I should be most grateful if anyone can advise me of any new developments along these lines and for any other information on this matter which you may care to offer.

MALCOLM L. MICHELL.

London.

Reformed Sans Gill

SIR,—ASTRAGAL, who refers in your current issue to the "Gill bold condensed headlines" in the September issue of "Architecture and Building," may care to note that these headlines are, in fact, from the Ludlow and Karnak series.

I hope this will not lead him to revise his kindly verdict on our typographical reforms.

DONNE AVENELL.

London.



COVENTRY

Pedestrian Precinct May Be Saved

Although a road bisecting the shopping precinct at Coventry is already under construction, the city's Planning Committee have accepted, in principle, the proposal by Arthur Ling, the City Architect and Planner, that it should be turned into a pedestrian way.

This proposal was put to the City Council on Tuesday, after the JOURNAL had gone to press.

Readers will remember the JOURNAL'S frontispiece of September 15, in which the editors deplored the possible ruining of "this unique example of English city-centre planning."

ARCUK

What You Mustn't Do

You must not send an illustrated brochure to clients to mark an anniversary of your firm. An architect who asked the Pro-

fessional Practices Committee of ARCUK if he might do this was told it "would be tantamount to advertising and could not be sanctioned."

You must not act as a manager or director of a firm of contractors. One architect recently resigned from the Register on being asked for an explanation by ARCUK; another, who no longer practices, was asked to resign from the Register.

BUILDING LAW

Lectures at Brixton

Building contractors and other parties to building contracts have, on occasions, cause to regret their lack of familiarity with the significance of various clauses of the Standard Form of Contract. A special course of evening lectures on the law of building contracts has been arranged to take place at Brixton School of Building at 7 p.m. on five consecutive Wednesday evenings commencing on October 19.

The fee for the course is one guinea. Anyone wishing to enrol or to receive further particulars should communicate with The Secretary, LCC Brixton School of Building, Ferndale Road, S.W.4. (Telephone: BRIxton 2068.)

HEATING

Changes in Methods

"The only way the smaller firm can survive today is by being original." A. C. Hazel, of Hurseal Ltd., said that during his talk, "New Heating Ideas at Home and Abroad," at the Hurseal "At Home" at the Building Centre on September 21. The originality in this case consists of collecting the best of heating practice from Scandinavia and America, where comprehensive rescarch is being carried out, and courageously applying it to conditions in this country. Most of the appliances exhibited were of types seen here only during the last few years, and appear to be rapidly gaining popularity.

Mr. Hazel pointed out two main considerations in the design of heating appliances. The first concerned our use of available fuels; as the cost of these rose, he said, continuous heating must necessarily give place to controlled intermittent heating. Quick response to thermostats required lightweight radiators, and so cast iron would give place to steel in this field. Time switches and other automatic devices would soon be finding their place in domestic installations. The good old back boiler, Mr. Hazel said, was on its way out. Its place would be taken by two precision appliances—the convector-type fire with restricted throat, and the thermostatically-controlled boiler.

The second consideration was the standard of comfort. Research in Scandinavia had shown that maximum comfort could be obtained if heat was supplied by both convection and radiation in equal proportions. This would substantially alter the design of many familiar heating appliances. The column-type radiator, for instance, emitted its heat in the proportion of 90% convection and only 10% radiation. Panel radiators overcame this difficulty, giving the correct proportion, and had the added advantage that they were extremely shallow in depth. They might be "tailored" for such curious positions as the balustrade of a stair or in the thickness of a partition wall. Convector-type fires also gave the required proportion of convection and radiation, and we could add this to the list of other advantages which appeared to be amassing in support of these appliances.

NFPC

First Social Event

The help and guidance which his organization had been given by the NFBTE was referred to by J. S. Cook, President of the National Federation of Plastering Contractors, at Cambridge on September 23. The occasion was a dinner and dance, the first social event of this kind held by the Plasterers' Federation and over 150 members and guests were present.

"We are aware," said Mr. Cook, "that we are the youngest baby of the NFBTE family, and for that reason we are probably regarded as the most troublesome. We know, however, that with the help of the NFBTE we have already been able to achieve a great deal for our trade and we believe that there is still much valuable work that we can do."

Earlier, Harvey G. Frost, President of the NFBTE, after expressing his delight that in Mr. Cook the Plasterers' Federation had for its President during the current year a member of his own Eastern Region, said he believed that the NFPC was only just beginning to realize its potentialities in dealing with the various questions which affect the plastering trade. Mr. Frost continued: "The supply and quality of your materials, the contractual conditions under which you carry out your work, and above all, the recruitment and training of apprentices to your trade, are all matters which require the fullest consideration. Apprenticeship is perhaps the most important of all these questions, for the very future of the trade depends upon an adequate supply of capable men."

Emphasizing that apprenticeship should not be a subject of interest to a few enthusiasts only, Mr. Frost—who was proposing the toast of "The National Federation of Plastering Contractors"—went on: "The NFBTE is well aware of your especial difficulties and will do all it can to assist you. To ensure that the labour force of the future is safeguarded you should decide on your policy, make it effective, and make it known to your membership."

GAIETY SITE

No Competition Design to be Used

The English Electric Company have asked Dr. Charles Holden to submit a design for a new building on the Gaiety Theatre site in Aldwych.

In a statement to the Press, the company say: "When the site was originally acquired by the company, Dr. Holden also submitted designs for the building which was to be erected there. In view of the importance of the site, however, it was decided subsequently to hold an architectural competition and the adjudicators gave first place to the design submitted by Mr. Gordon Tait, of Sir John Burnet, Tait and Partners.

"A period of very careful consideration and appraisal by those concerned followed, in which the harmony between the contrasting styles of the existing buildings and that of Mr. Gordon Tait's design featured largely. In consequence, the English Electric Company decided to ask Mr. Gordon Tait if he would consider creating another design on a peripheral, as distinct from the spinal plan, upon which his prize-winning design had been based.

Mr. Tait, while appreciating the reasons for this request, decided that he would prefer to free the company to engage another architect for the project. The negotiations were conducted in the friendliest manner on both sides since all parties were aware that the discussion centred round the eventual appearance of the Aldwych site as a whole and did not affect the company's deep appreciation of both the practical and the aesthetic qualities of Mr. Tait's design."

ASTRAGAL comments on page 443.

IWA

"It Costs Less to Keep a Canal"

The three main speakers at the delicious annual debauch of the Inland Waterways Association held recently at the Fellows' Restaurant of the Zoo (writes a correspondent) were in fine form—witty, entertaining, constructive and commendably brief. All were members of the Association, and because no enemies from the Transport Commission were present they spoke without inhibiting courtesy.

Chuter Ede, the vice-president of the IWA, gave some practical advice. He pointed out that the Association would soon have to justify its existence and it had only about eight months in which to do so if it was to prevent the destructive recommendations of the official report on waterways being applied. The IWA should now formulate a clear policy and that policy should be brought to the notice of MPs, not by printed circulars, but by personal letters written by members to their MPs which began by stating that the writer would not vote for the addressee next time if he did not support the IWA policy in Parliament. That kind of action worked wonders, he said, as he knew from his own experience (twinkle, twinkle).

John Betjeman, who was nicely introduced by the Founder of the IWA, Robert Aickman, as "a man and not a type," said that whereas some might love canals as a business, others for the way of life upon them, he loved them because they were beautiful. If roads were not made to "pay," why should canals be expected to "pay"? Then he let fly: the people on the Transport Commission were weak men—brutes—old fools. As for PROs, they were the most repulsive form of creation, men without consciences. But canal lovers had plenty of friends; the anglers ought to come in with them and the help of editors of local papers and of local councillors should be sought. IWA members should write to their MPs in long-hand, legibly and on one side of the paper only.

You have to be funny in after-dinner speeches. Those two were funny. They were also in earnest. Stanford Robinson was less so. He admitted he knew nothing about canals, but he made the funniest speech of all—something about TV, his brother and the old Steam Radio, about canals in opera, in poetry, in the Dictionary of Quotations and the Encyclopædia Britannica. Did we know, for instance, that the Alimentary Canal was 25 to 30 feet long? What was the Transport Commission going to do about that?

Anyway, it was a good evening. Now for morning action. JOURNAL readers don't have to be IWA members to make a protest.

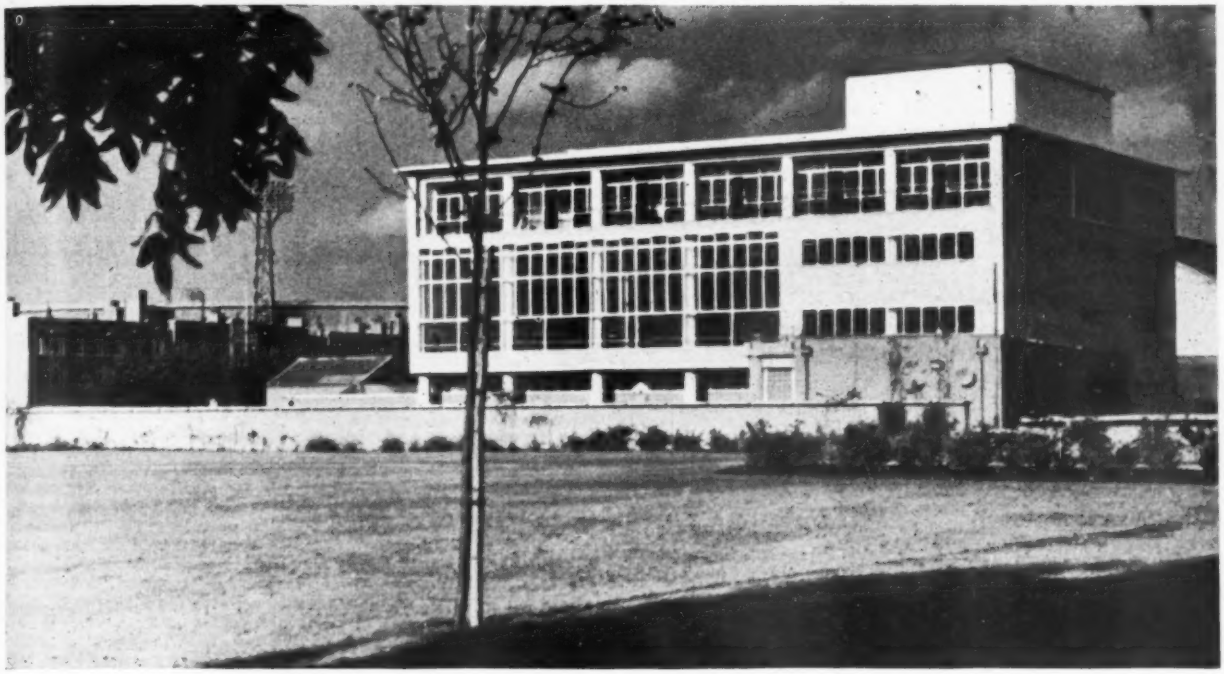
And consider this point made by Robert Aickman: It costs more to abandon a canal than to keep it.

DIARY

Habitat: CIAM 10. All British pilot projects for the CIAM Congress. At the AA, 34-36, Bedford Square, W.C.1, in Halls 1 and 2, between 12.0 p.m.-2.0 p.m. and from 5.0 p.m. UNTIL OCTOBER 17.

Lecture. By Pier Luigi Nervi. At the Friends Meeting House, Euston Road, 6 p.m. (Sponsors: The Institute of Structural Engineers and the Joint Committee on Structural Concrete.) Tickets on application from The Cement and Concrete Association, 52, Grosvenor Gardens, S.W.1. OCTOBER 14.

BUILDINGS IN THE NEWS (*continued*)



Second Television Building, White City

Above is the first building on site No. 2 of the B.B.C. Television Centre at Shepherds Bush. It is a continuation of the first contract, which included the scenery block, and is to be used temporarily as rehearsal studios. As the project progresses the building will be converted to a canteen with accommodation for 1,000. Designed by Graham Dawbarn, of Norman and Dawbarn, in association with M. T. Tudsberry, consulting civil engineer to the B.B.C.

Coffee Bar in Marylebone

The Piazza Restaurant, Marylebone High Street, was designed by John and Sylvia Reid, who chose all the equipment needed and were even responsible for the typography of the menu. The service counter (middle picture), behind which is a photo mural of the Piazza Bodoni, Turin, has a front of Italian marble, lit by fluorescent tubes in the counter top. The floor in this section is of grey, marble sheet-linoleum with an inlaid pattern specially designed to give an impression of greater width. The fibrous plaster ceiling is lit by fluorescent tubes. Further into the bar (right-hand picture) the lowered black ceiling houses built-in direct lighting fittings and conceals heating and ventilating equipment. On one side the wall is dark green; on the other it is boarded with strips (coloured), each of which carries a coat-peg.







When Sir William Holford gave his presidential address to the Housing Centre last week he spoke about subsidies, housing standards, slum clearance and visual outrage.

HOUSING CENTRE

Sir William Holford's Presidential Address

The Housing Centre is face to face with a number of insoluble problems, affecting both itself and the country as a whole. And the fact that they *are* insoluble is the reason for the Housing Centre's existence and also —it seems to me—one of its main attractions. Life itself is, in the same way, insoluble. It is hope that keeps us going and energy that produces some achievements by the way. But although the goal is never reached and the problem never solved, yet vitality results from the struggle, and particularly when it is carried on in association. As with life, so with the housing problem, which is always with us. This particular association, the Housing Centre, is far from being safe and established, even on its twenty-first birthday; but it is something better than that; it is essential! If you had not invented it, the Centre would, I think, inevitably have come into existence, because it is part of the machinery of an age which is seeking, in the face of growing populations, to reconcile public interests and private freedoms, and of a country in which voluntary association is just as necessary as government. I know, therefore, *why* the Housing Centre exists. What I do not understand, even after reading the 18th report for the year 1954-55, is *how* it exists; but no doubt in the years to come I shall find out.

Fortunately the president of the Housing Centre is not expected to know the answers to its problems. He is simply one among many who realize the importance of discussing them in an objective and independent way. His job is consistently to advocate that the questions should be framed—and as intelligently (and intelligibly) as possible. In an organization which has research workers on one side of it and politicians on the other, he ought to be not the most, but the least doctrinaire in his opinions.

If I am right in this, you will not expect any *ex cathedra* statements from me this afternoon. The most I can do is to enumerate some of the items that will be or become live issues during this session.

The most topical, and also one of the most long-standing, is undoubtedly the question of housing subsidies. This matter needs not only clear thinking but very expert handling. General ideas are not enough. Some years ago in a study group at PEP, we came to the conclusion that the present system was irrational, inequitable and—on the whole—inflationary. Many of us considered that the subsidy should attach to the family in need and not to the standard, impersonal house. We deprecated the planning distortions that often arise from the absence of any location factor, and from the subsidizing of high blocks of flats in built-up areas. We recognized, however, that this was not a straight issue. It was not only an economic problem; there were formidable social difficulties in the way and the political climate was unfavourable to change.

Now, during the past week, the Minister of Housing has invited local authorities and the public to grasp these nettles. The Press in general welcomed this change of approach, though *The Times* was not slow to point out that the most significant thing that could happen would be a slight change of direction. We have already travelled such a long way on the high-road of subsidy policy that, whatever happens, the bulk of these subsidies must be payable over the remainder of this century. It went on to suggest that while everyone is considering means of more effective distribution we should try to formulate a long-term policy "to deal consistently with the whole structure of rents, private and public together, and to fit public rent assistance into its proper place in that structure." This might almost be incorporated in the objects or terms of reference of the Housing Centre.

A consequent, and almost equal problem is the determination of housing standards. This problem is continually being solved and yet remains forever unsettled. It is progressive, or—in the jargon of the day—a "chain reaction." Improvements in the quality, equipment and servicing of houses lead in the main, though not invariably, to higher costs and then there is a swing towards economy, reduction in room-sizes, prefabrication, and higher densities. But the improvements are none the less wanted for being unobtainable—very often they are even more wanted; and some become planks for local political platforms. Also, in the long run, certain standards which were tolerable a generation ago are not tolerable now; this applies particularly to piped and cabled services, materials and fittings.

Many architects have tried to drive home the point that the total cost of a house is not the initial capital expenditure, but that, plus 60 years' maintenance. If we build to a social or a structural standard that is going to favour the growth of a future slum we are, of course, creating a housing problem at the same time as we seek to remedy it.

Please do not imagine that I find this perpetual phenomenon depressing; on the contrary—and as an architect and town planner myself—this constant improvement of standards seem to me a major justification of my work. I only get depressed when I switch on the latest of the mechanical wonders to invade the home—television—and watch the face of an economist telling me earnestly that I and millions like me, are living in a fool's paradise.

Whatever the ups and downs, there is no doubt of the continuing need to keep a sharp eye on housing standards, and I do not suppose that anyone connected with the Housing Centre can be unaware of it.

Following the resumption of slum clearance by housing authorities, the Housing Centre, as you know, held its annual conference this year on the subject of where the next million houses are to be. Unfortunately I could only read about this conference; and I could not attend it owing to dates much more fixed and unalterable than any other in the world—namely, University examinations. But it is obviously a subject of the most vital interest and is likely to be a battlefield not only for economic forces but for æsthetic shock-troops as well.

I mentioned just now that the total cost of a house is not only initial capital but 60 years' maintenance as well. Considered as a home for a family the total cost might well include the daily journeys to work. We are now increasing employment opportunities in Central London and thus adding to the total cost of many households in the more distant suburbs, the country estates and even—it may be—in the New Towns. Here is a problem on which housing experts need to consult with urban land economists before they can even present a clear picture of it to the public.

As to the visual aspects of the matter, I need only point to the *Architectural Review's* special number, and subsequent book, called "Outrage" to show how in a complicated, overcrowded and democratic civilization one can drift a long way from the simple and the well-designed towards the fussy, the uncoordinated, the ignoble and the ugly. The critic's illustrated journey through England is overdrawn when compared with the better and perhaps even the average achievements of town and village. But it is by no means the worst that could be said, and every now and then the worst needs saying, if only to make a preoccupied nation use its eyes.

CRICKET

RIBA v Club Cricket Conference XI, at Wimbledon Cricket Club

If a fairy godmother waved her wand over Pat Sherwood's tennis racquet and saw him through to the last eight in the mixed doubles at Wimbledon this year, three contrary witches immersed his cricket bat in the vilest of cauldrons. With only 25 runs to show for his previous nine innings he begged Skipper Cecil Davis not to make him open for the Conference XI. Great Spofforth! What is meet for the bowler who served him up a howling full toss first ball of the match? Tying to the heavy roller? A pilgrimage to Hambledon? Deprival of the new ball for life?

Sherwood takes his fourpenn'orth; he's away. At the other end A. H. Brown (Surrey II and Beddington) begins to help himself. The bowling is moderate, not bad. You can be feet loose against some but not against these boys. You daren't be inches loose. Brown drives like a whipcrack and turns to leg. Now Sherwood hooks and then drives. When he spars at the risers there is a chance but a small one; he's back in the runs. Brown goes even faster. The fielding holds, the bowling tries and really we love it. Six of us have a go.

At 141 Brown departs—bowled by Batty for 91—and we sprawl on the dry grass. T. Burton (Wimbledon Park) helps Sherwood push the score along. Sherwood is impatient in the nineties. He wants his ton before lunch but doesn't get it. In we go. After lunch he gets it, skies a catch to G. Fyson (Ronald Ward & Partners)—233 for 2—who soon takes another teasing little skier that sends back Beckenham's Roy Hill. At 253 for 3, Davis declares.

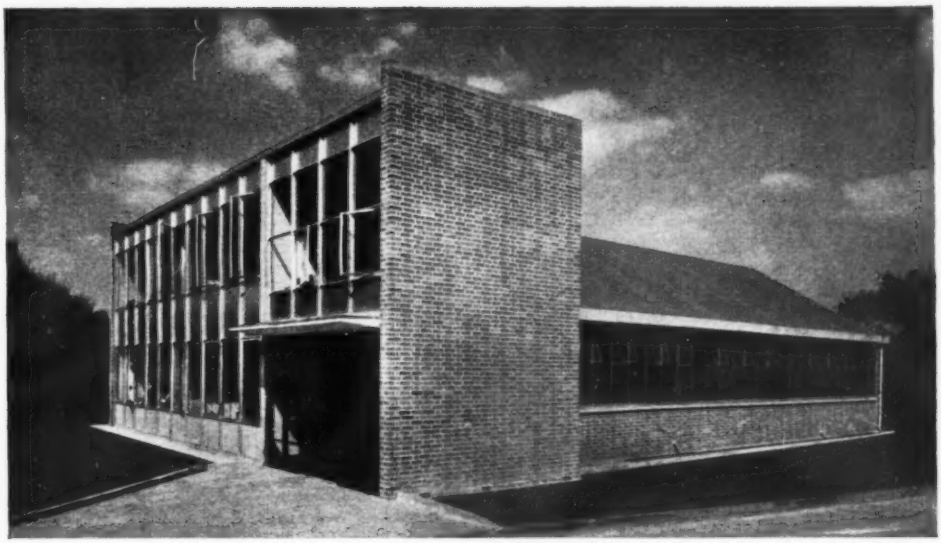
The RIBA openers, J. Kennedy Hawkes (own practice) and J. G. Batty (his father's) begin to gnaw into the total. At 28, Kennedy Hawkes is bowled by Seabourne, of his own club, Wimbledon, when going pretty well, for 21. Following this, fast bowler T. Burton (47 not out when he batted) knocks Batty's stumps down for 2 runs and not long afterwards Basil Smyth's for 11. 57 for 3—it's up to Robinson and Seward now. Derek Robinson (a partner: Donald Ward) plays, after some uncertainty before tea, a very fine knock. John Seward too (Cruickshank and Seward) finds his touch and they add 77 for the third wicket. Con Davies (Alexandra Park) eventually induces Robinson to late cut a short ball that comes back a bit and bowls him for 52; and fairly promptly Fyson (caught and bowled by Goodall for 2) and RIBA Skipper Roger Norton (bowled by Burton for 6) are disposed of in turn. 148 for 6. No chance of a win now. But can the game be saved in the failing light? L. G. W. Bishop joins Seward and Seward now is almost complete master of the game. His cutting is daring, his driving superb. He steals the bowling. He jumps down the wicket to hit Burton over his head. He leans back to hook. Runs simply flow from his bat and the colours on his Free Forester can seem lit up like neons. The RIBA are 205 for 6 when stumps are drawn, Seward 82 not out, and a very enjoyable match has ended in a draw.

ROBIN MUDIE

BUILDINGS IN THE NEWS

Laboratories at Southampton

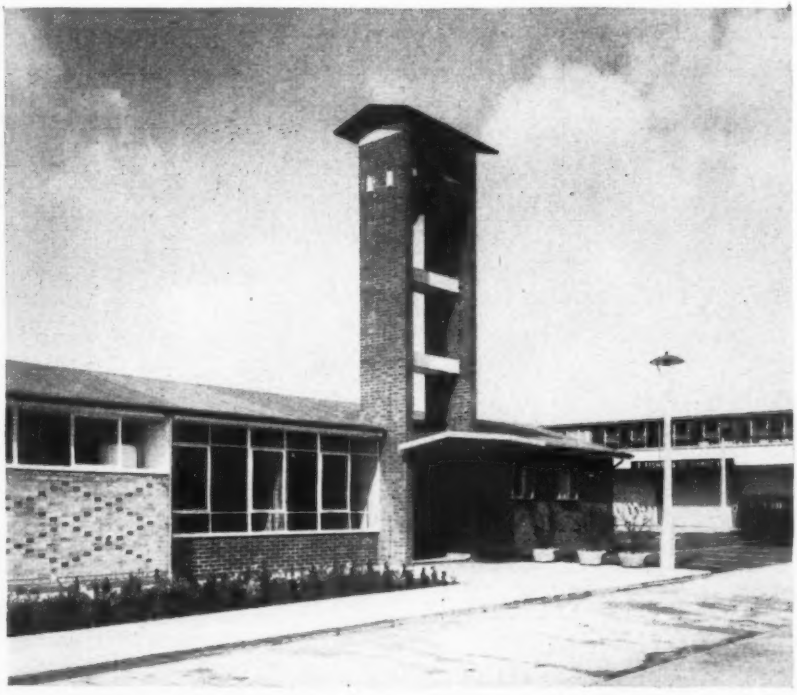
These research laboratories for Leicester, Lovell and Co. Ltd. recently opened at North Baddesley, Southampton. The clients, who are manufacturers of synthetic resin and casein glues, required laboratories for tests on plywood panels, joints and laminated constructions. The architect was J. H. Saunders of W. H. Saunders and Son



Public House, Bracknell New Town, Berkshire

The new "Prince of Wales," on the Priestwood II Estate at Bracknell New Town, designed by Reginald E. Southall, Chief Architect, H. & G. Simonds, Ltd., for whom the public house has been erected. The Development Corporation required the old "Prince of Wales," in the High Street for demolition, to make way for new developments, and the new establishment has been built in the housing area of the new town. In the exterior design of the building traditional materials have been used, in order to blend with the surrounding housing. An unusual feature is the provision of a children's room, behind the saloon bar. The first floor contains a flat.





Market at Coventry

The Wholesale Market at Barras Green, Coventry, has recently been completed on a 7-acre site near the centre of the city. The whole project consists of six ranges of steel-framed standings, served by concrete roadways and parking areas grouped in a square with an administration block and clock tower in the centre. Approximate cost: £200,000. *The market will be illustrated fully in a later issue of the* JOURNAL. *The design was carried out by the City Architect's Department, under D. E. E. Gibson, formerly City Architect and his successor, A. G. Ling. The general contractors were J. G. Gray Ltd.*



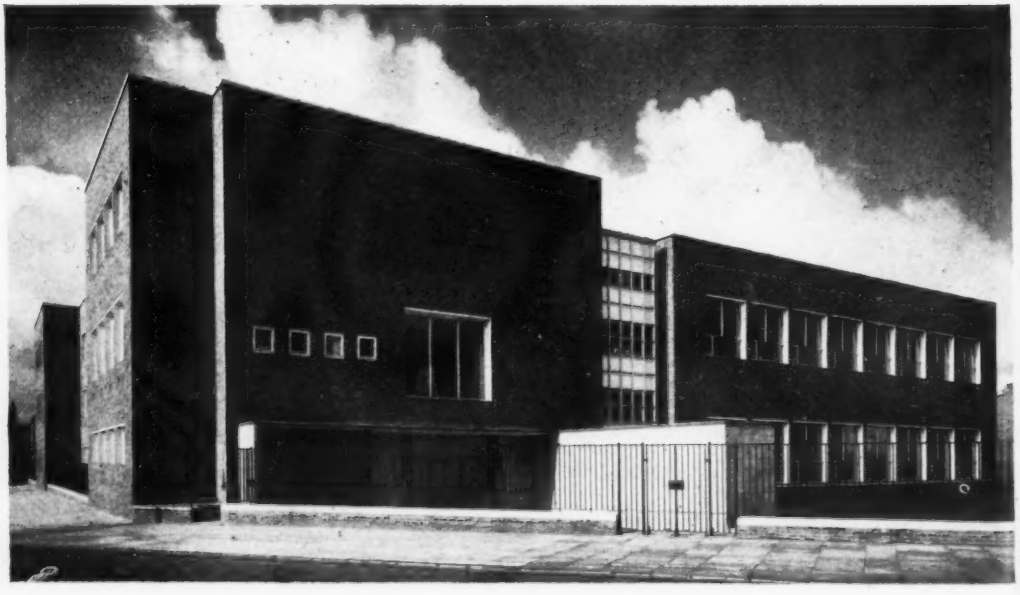
Water Gas Plant, Aberavon

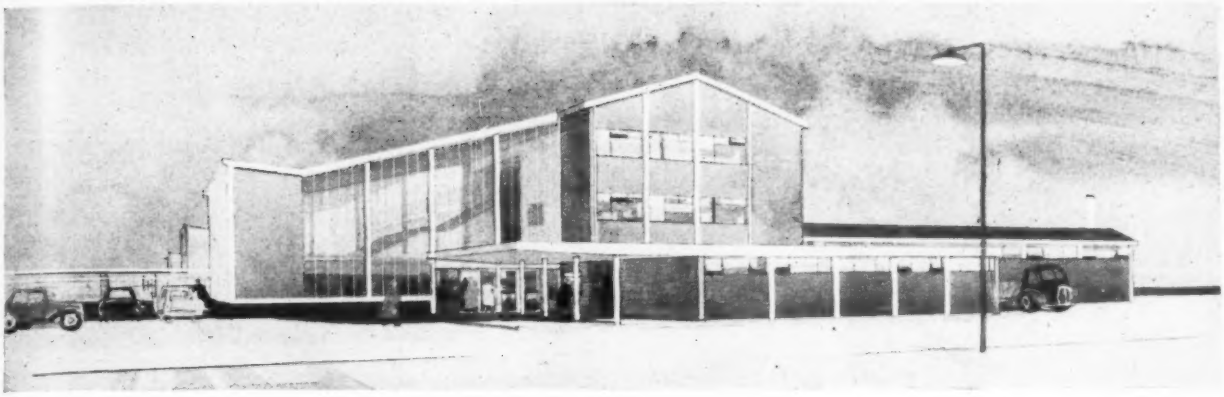
This building is the first of a number to be constructed on a site at Aberavon, Glamorgan, and the group, when completed, will form the new Aberavon Works of the Wales Gas Board. T. Alwyn Lloyd & Gordon were appointed as consulting and co-ordinating architects, working in conjunction with the Gas Board's engineers. As plants incorporate air blowers, which make a considerable noise, heavy brick construction was adopted for the blower room, completely separated from the rest of the structure on independent piles and foundations. Double sound-proof access doors were fitted and the air intake, at the top of the building, is a reinforced concrete shaft, lined with sound absorbent material. The cost of the building was £98,000, of which some £21,000 was spent on piling, foundations and plant bases. The assistant architect in charge was V. G. Kinch.

BUILDINGS IN THE NEWS (*continued*)

Research Laboratory, Liverpool University

This new laboratory building for the Department of Inorganic and Physical Chemistry, University of Liverpool, was designed by Stephenson, Young and Partners. It is one of the first buildings to be completed in the re-development of the University. It comprises two large wings, each of two storeys, with a connecting spine of three storeys from pavement level. The latter contains specialized laboratories, and research, staff and cloak rooms. In each of the wings are located two large laboratories one above the other for undergraduate teaching.



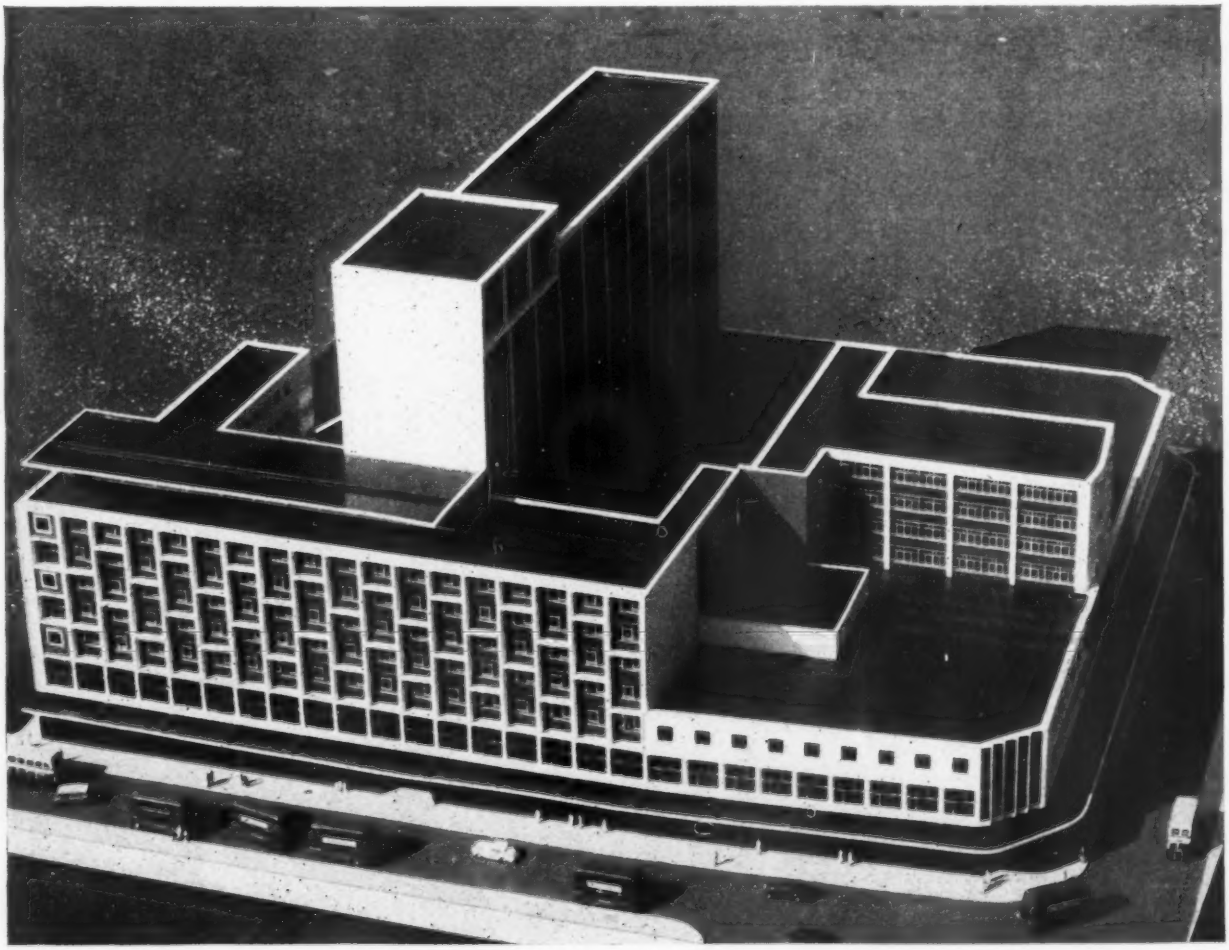


Station for Banbury

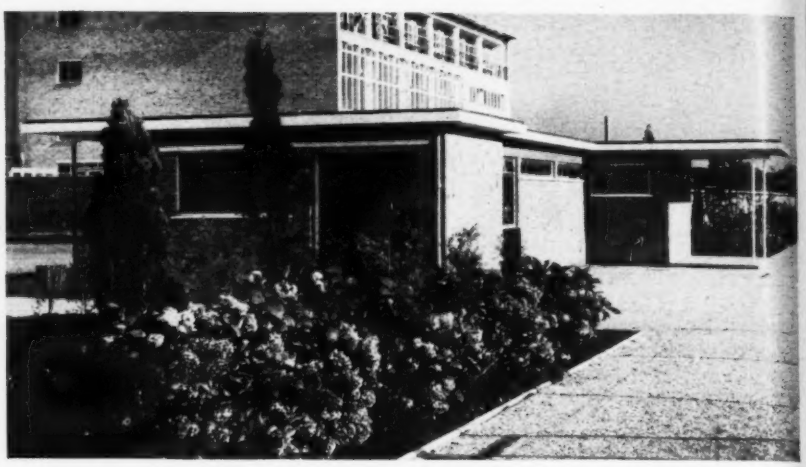
Work has already commenced on this station at Banbury. It was designed by H. E. B. Cavanagh, Regional Architect, chief Civil Engineer's Office, Western Region of British Railways.

Offices and Shops, Birmingham

This project for offices and shops, to be built on the Big Top site, Birmingham, was designed by Cotton, Ballard and Blow. (Consultant architects: T. P. Bennett and Son and the Architects' Department of the Co-operative Wholesale Society.) Provision is made for delivery of all goods to shops by means of an air-conditioned underground roadway. The boiler house for the offices is to be situated on the roof of the building, so that it is not necessary for a flue to pass through the building.





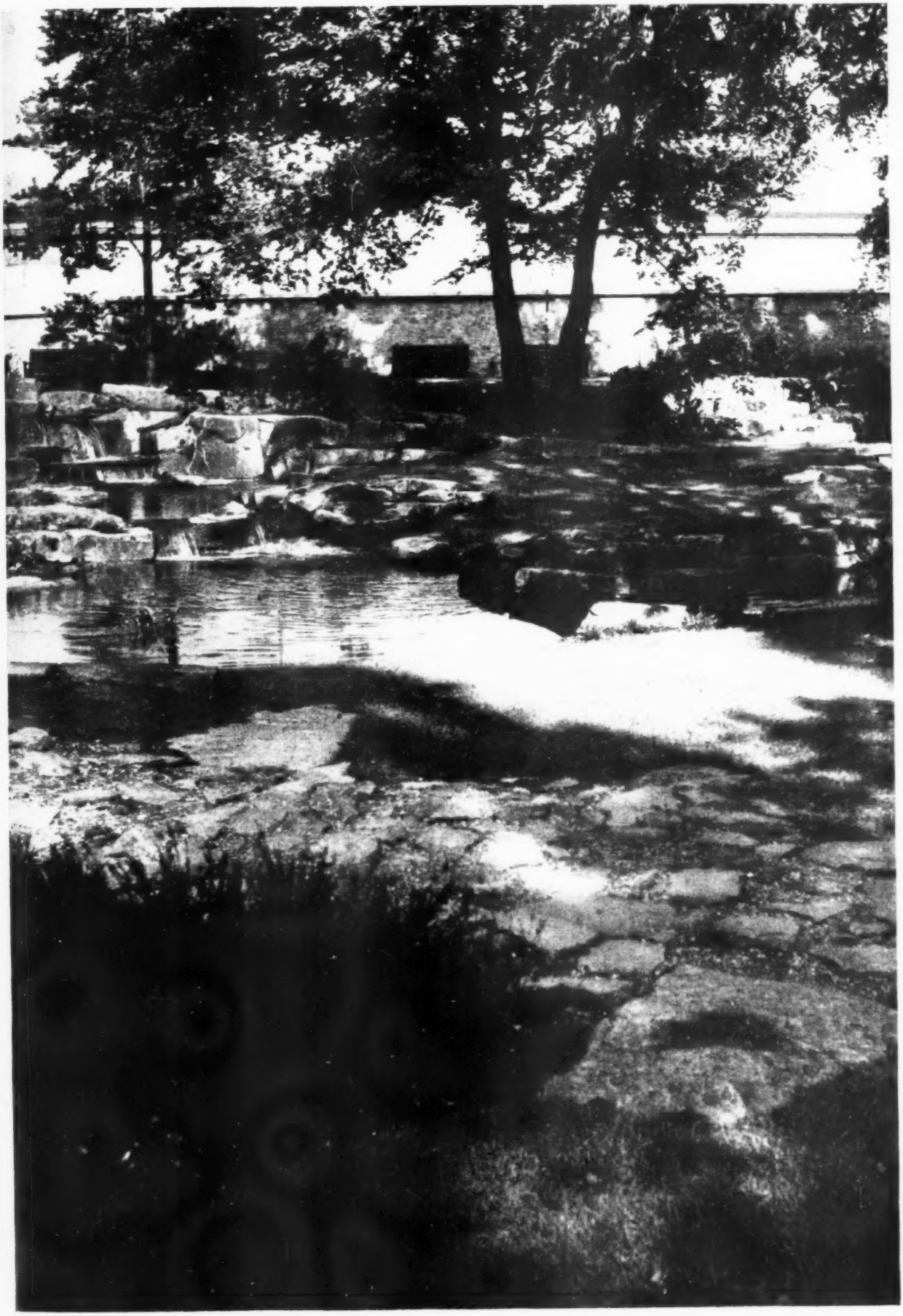


A NEW LCC PARK AT HAMMERSMITH

This LCC park, occupying 7½ acres to the south of White City Stadium, was opened on September 17. About half of the area is given over to sports facilities; playgrounds, tennis courts, a bowling green and a paddling pool. The remainder is laid out as gardens. The photograph on the opposite page shows the waterfall and rockery, with a stock brick wall and seats in the background. This miniature landscape is convincing; good use has been made of trees on the site, and new planting, mainly of alpine plants and heathers, is well chosen and placed (see photograph above left). The lavatories and the changing pavilion for the tennis courts, seen above right, and the children's lavatories and shelter, below, were designed by the Parks Department. So was the rustic "Keep Off The Grass" sign shown on page 446 — a surprising lapse, for the general standard of design by the department seems to be showing a great improvement, as can also be seen in the large picture on page 446.



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Planning has been reduced from an exciting and imaginative concept, based on common sense, to one of the most dreary and bureaucratic of local government functions. So writes the author of this article who is a senior architect in a county planning office, and is thus able to present a picture of planning from the inside.



SUBTOPIA

Why Planning Does Not Control It

As "Subtopia" continues to sprawl, it must be asked why the elaborate and expensive planning machinery is failing to deal with the situation, as whatever successes are, or are not, being achieved in other directions, there is little evidence of any significant improvement in the standard of everyday development. When the new planning organization was set up, in 1948, many architects decided to specialize in this field, in the belief that here was more need and opportunity than in the designing of individual buildings. It may now be wondered why their influence appears to be so ineffective, and this short article is written in an attempt to answer this question by describing, from experience, the situation which exists within some planning offices.

Architects are now leaving planning, and under present conditions, the time may not be far distant when no man who really cares for good design, will be induced to enter, or remain—with the disastrous result that architectural influence will be eliminated entirely from the planning machine. For several years, the writer has been the senior architect in a planning office of a county authority, which has been considered by no means the least enlightened. During that period, there has been an ever-changing staff of qualified assistants, few of whom have remained for any length of time in planning, as a result of the conditions and atmosphere prevailing.

Planning should obviously be an organization where the architect, the engineer and the other basic professions each contribute their own specialized knowledge, but within the broader framework of the team. This concept of disinterested service, under a public authority and in association with other professional men, on paper appears to be stimulating. Despite the will to give-and-take, however, the architect-planner may find himself in an office controlled, say, by a municipal engineer, and he may then also find that the engineer, by virtue of his seniority, will set himself up as the arbiter, not only on general policy, but on specifically architectural matters. He may then expect to spend fruitless hours in trying to put over good design to a self-styled "practical" man, who may regard the standard of pre-war speculative development as inevitable and irresistible, if not the acme of convenience and delight. He may also discover that the average committee has little or no interest in the visual aspects of planning, and that they will generally rely on other than architectural counsels, having been brought up on the advice of the "engineer and surveyor," another "practical" man. In general, the architect in planning may well find his own internal organization far more difficult to deal with than the "clients," the prospective developers, who are usually really practical men, out to make money.

The most economic form of development for the speculative builder consists of pairs of narrow-fronted semi-detached villas, with half-pairs to fill up the odd spaces that do not quite work out. Apart from "materials," which means the pebbledash and brick in varying proportions, attempts to secure variety and interest will be countered on grounds such as that trees and verges require maintenance, terraces do not sell, roads of interesting shape are more difficult for the builder to set out, and there is nothing to beat asphalt; and so we have the mixture as before, and Southampton looks like Dundee and the whole country like Finchley. The unexpected effect of the number of well-designed Council estates built since the war has been to place a premium on bad design, from the social point of view, and small domestic building, with any pretensions to architecture, is now dismissed on the grounds of "looking like Council houses." Perhaps, if Council estates had been designed with pyramid roofs and stained glass ships in the front doors, we should now be experiencing a genuine public demand for better design.

There have been letters in the technical press from architects, who have had exchanges with planning offices on the thorny problem of elevational control. To put the matter into perspective, it should be realised that, at any rate in some parts of the country, quite three-quarters of the applications received are designed by unqualified persons. Often styles such as "Architectural Designer" or "Architectural Surveyor" are adopted by these people, and not infrequently the designs are quite incompetent from the practical point of view, the drawings not reading together. Aesthetically, if a standard equivalent to first year in any recognized school were to be adopted, very few would reach the post. There seems to be a feeling abroad that architects in planning offices sit in judgment on their fellows, and make difficulties on any design which they happen personally to dislike. In the writer's experience the designs questioned, from the technical angle as distinct from decisions which the committees may make, are very, very, seldom by qualified architects, and are usually hopelessly incompetent by any reasonable visual standard—contemporary, traditional or otherwise. Negotiation on the really bad designs is usually a game of bluff, without the backing of the committee, who if an alternative design is put to them will often express a preference for the submitted builder's plan. It is, therefore, dependent entirely on the goodwill of the applicant, many of whom are quick to appreciate the weakness and possibilities of the situation. Planning offices find themselves acting as honorary architects for the area and builders put in mere rough drawings, in the knowledge that "negotiation" will result in a scheme being produced for them, for the sake of saving the countryside. Unfortunately, the only designs which many of these committees will readily refuse as injurious to amenity are those produced by the more contemporary-minded architects, particularly if they have low-pitched roofs and timber cladding, in place of the "traditional" pebbledash.

Happily, these cases seem usually to be allowed by the Minister, on appeal, but only after a great waste of time and effort to all concerned. It is not surprising that annoyance is caused, in these particular cases. At the moment, elevational control may have a nuisance value in that developers go to an architect, as they are encouraged to do, rather than face delay in dealing with their applications. To be at all effective, in the positive sense, the architect in the planning office must have the backing of the committee, which is lacking at present; this in turn is dependent on the attitude of the public. The main cause of the trouble, however, is undoubtedly the delegation system. Delegation schemes mean that the majority of applications are dealt with by local council committees, with a recommendation from the planning office, which they are free to accept, or otherwise. In theory, this sounds a democratic arrangement, but in practice, it means that the technical staff of the planning office can only operate by courtesy of the local engineer and surveyor, who alone has the ears of his committee. These officials have to be treated with the utmost deference and their agreement and permission obtained to any suggestions made or negotiations undertaken. As not a few of the applications may have been "ghosted" by the engineer's staff, with his connivance, these precautions are perhaps understandable. The staffs of the larger authorities are prohibited, rightly, from undertaking private work, but these sanctions do not seem to apply at the local level, thence the unfair competition about which the smaller firms or private architects complain.

The frustrations of the planning office, from an architect's viewpoint, have so far been dealt with as regards the development control aspects, as this is the side with which most people come into direct contact and it is the part of the machine which is failing to cope with the day to day manifestations of "Subtopia." On the more positive planning side, there seems to be little effort to grapple with the real problems, a situation for which central authority must share the blame. Decisions are left, with the result that expediency ultimately dictates. Committees are still often more concerned with the effect of a proposal on the territorial ambitions of a neighbouring county borough, or on their rivalry with the adjoining urban district, than with the principle of the right thing in the best place. The essential issues are clouded amongst the intricacies of elaborate techniques, with interminable wrangling over unimportant details, and the production of volumes of figures, often evolved, for their own sake, from fundamentally unreliable hypotheses. Rarely will a decision be made on real planning grounds, particularly in the light of considerations of amenity or civic design, which are regarded as administratively unreliable. A whole vocabulary of phrases of indecision has been invented, to cover up lack of policy, and planning has been reduced from an exciting and imaginative concept, based on common sense, to one of the most dreary and bureaucratic of local government functions.

Until there is an increase in public awareness, it is difficult to see grounds for optimism as regards the future, within the present set-up, at any rate, concerning the contribution of planning towards a better visual environment. When the 1947 Act was introduced, many felt that it had come too late and that too much damage had already been done. It is doubtful if even the most pessimistic would then have guessed, that within a decade, with the resurgence of speculative building, we should be back to the standards of the thirties. The JOURNAL has recently reported the news that the L.C.C. are proposing increased delegation to the boroughs, and has expressed the pious hope that architect planning officers may be appointed. The writer hopes this will be so. For himself, does any architect require an assistant, several years away from building, but with planning experience?

FACTORY

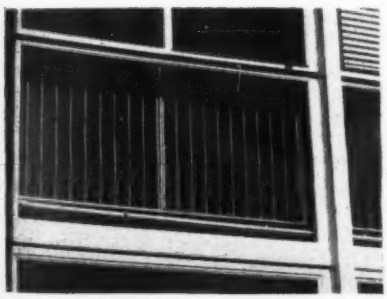
at MANOR ROYAL, CRAWLEY, SUSSEX

designed by J. M. AUSTIN-SMITH and PARTNER

assistants, L. DIRASSAR, C. PALMER, A. PASCUAL, R. HAYDON

quantity surveyors, YOUNG and BROWN

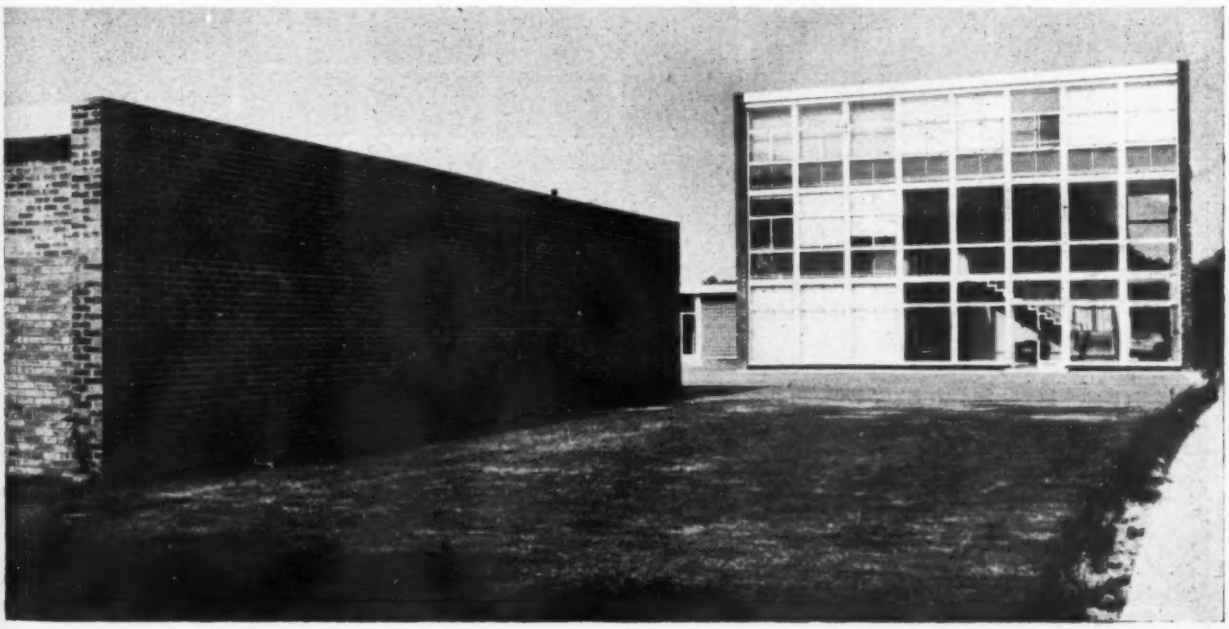
structural engineering consultant, F. J. SAMUELY

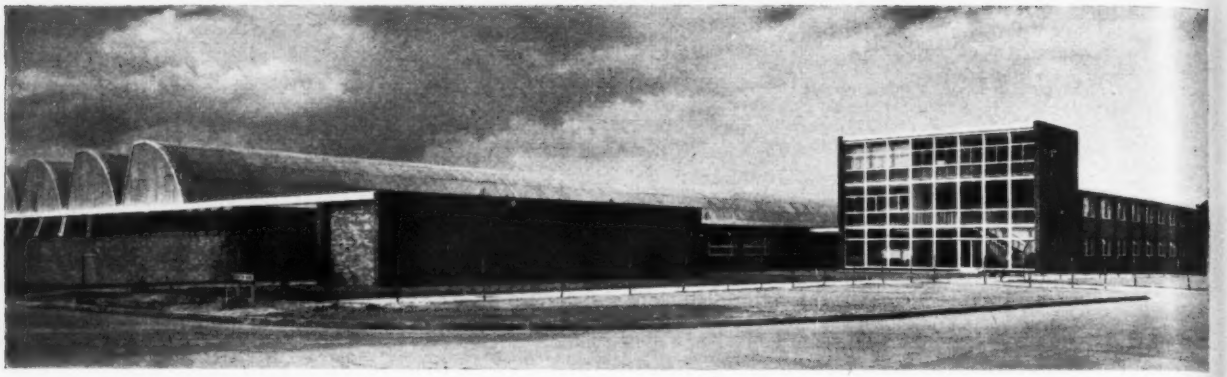


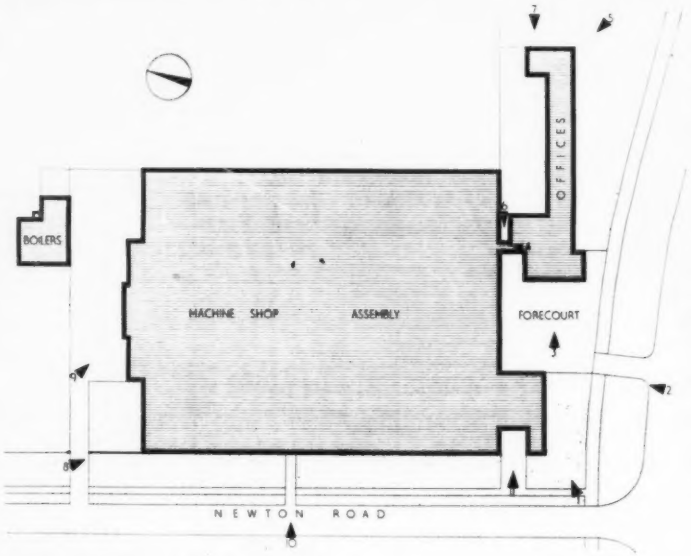
One of the removable panels in the glazed wall of the tower, between handrail and floor. A continuous run of heating pipes is placed under these panels.

The Silentbloc factory at Crawley, which is used for the manufacture of rubber anti-vibration mountings, has been designed so that offices and factory buildings can be extended independently. The services have been detailed with a view to the possible future modification of the machine layout. The 108 ft. wide main shop has been kept free of intermediate stanchions, as a result of the use of light prismoidal steel shells. A subsidiary factory, to be built later, will share facilities such as boiler house and vehicle access.

Viewpoint 1: looking towards the " tower " office block.

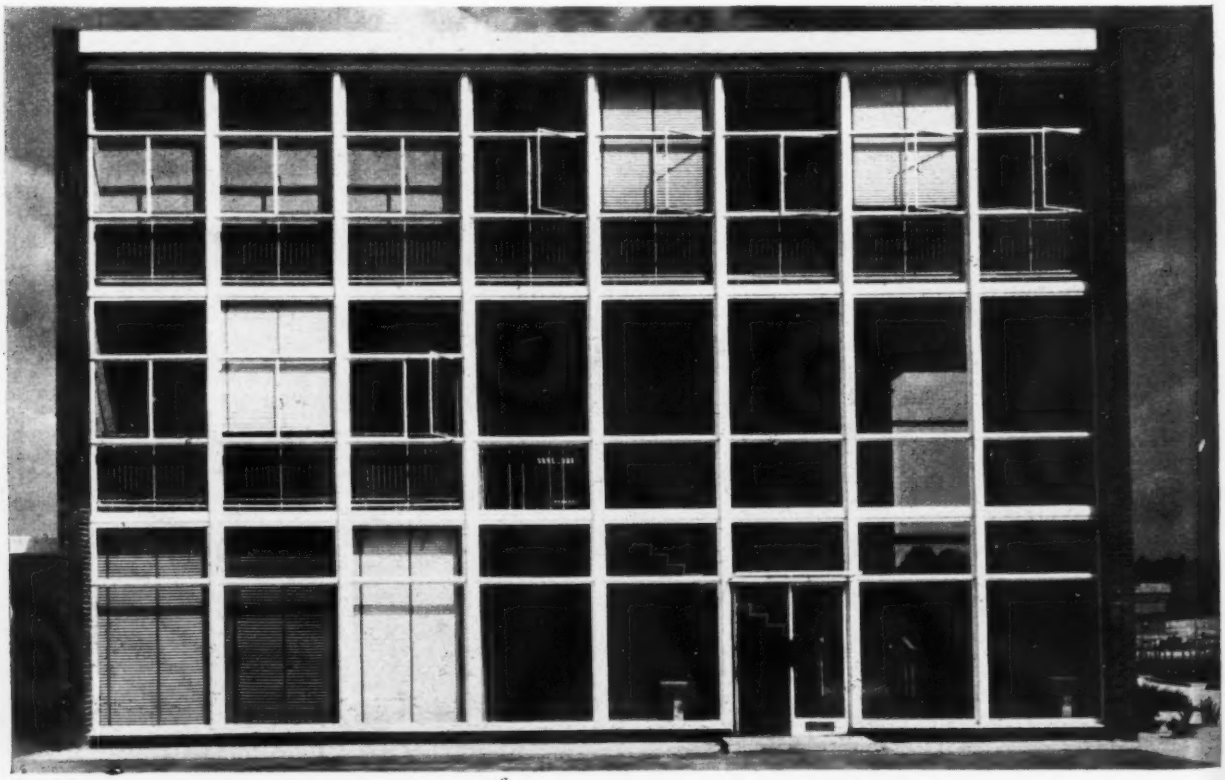




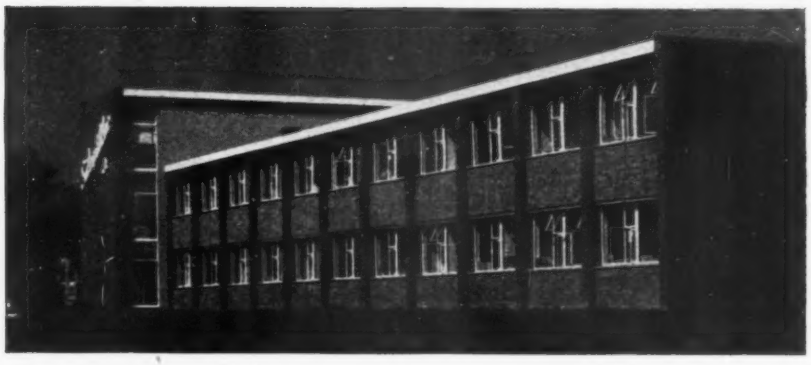


Key plan showing photographic viewpoints

The architects have broken away from every-day factory design, where the office accommodation usually forms a continuous false front to the main body of the building. Viewpoint 2, above, shows the main workshop left, and administration buildings beyond the centrally-placed entrance courtyard right. Facing on to the courtyard, at right angles to the road, is the three-storey tower containing the entrance hall and managing director's suite. To the left of the tower is the lower roof line of the works canteen and behind the blank screen wall are the workers' entrance, locker rooms and lavatories. Viewpoint 3, below: the three-storey tower has an exposed welded steel frame composed of box stanchions and horizontal channels. The welds for this part of the structure were ground down and filed before being painted, and the metal windows are secured direct to the frame. The entrance hall extends through two floors, and the managerial suite is placed on the top floor. Water storage tanks, also housed at this level, are placed on special mountings provided by the client to eliminate any unwanted noise transmission.



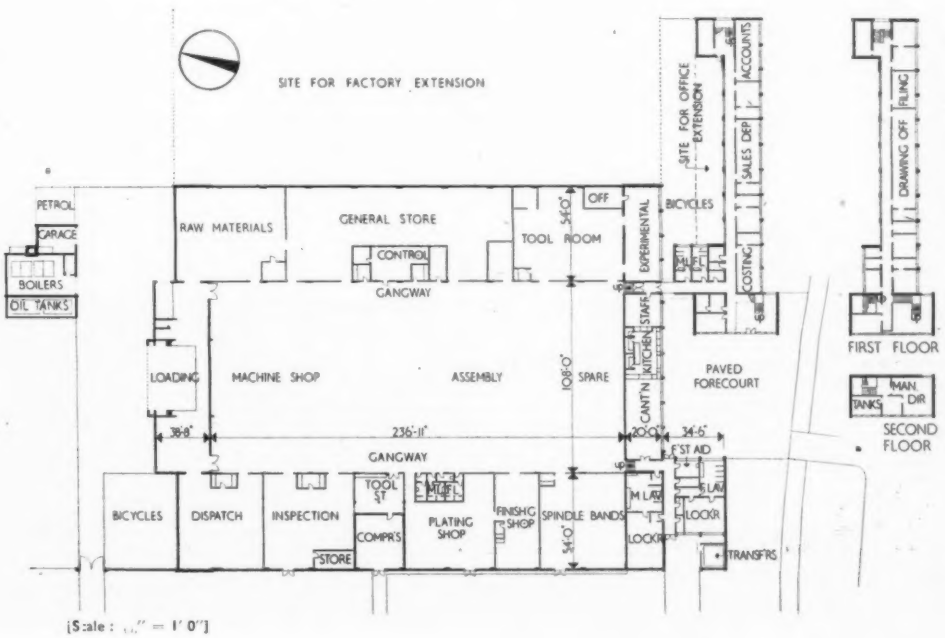


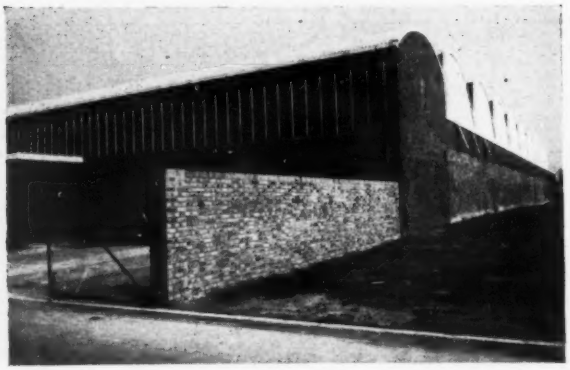


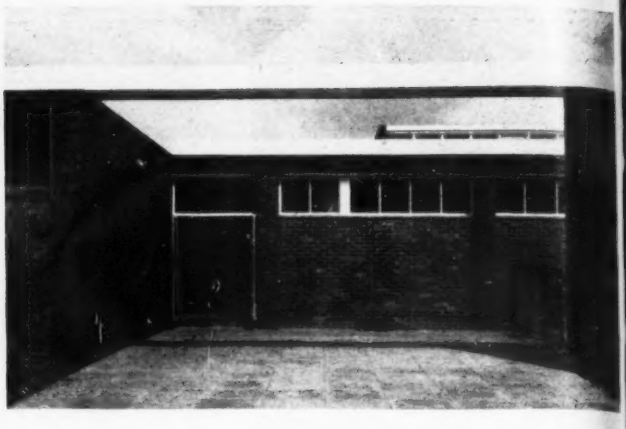


FACTORY AT CRAWLEY

Viewpoint 5, top right: the main front to Manor Royal, showing the administration block and the rendered wall of the tower beyond. Pre-cast edge beams spanning between brick piers form the lintols to the windows and carry the infilling panels of lighter-coloured facing bricks. Throughout the factory the eaves are finished with an asbestos cement fascia. Viewpoint 6 left: an open covered way at the north-east corner of the entrance courtyard links the administration block (to the left) with the production building (to the right). Across the courtyard is the first-aid and lavatory block. It was the original intention of the architects to have all infilling panels rendered, but the client preferred fair-face bricks. Viewpoint 7: this wall of the production building is faced entirely with asbestos cement sheeting to facilitate future expansion at this point. The boiler house, which can be seen on the extreme right, is centrally sited for the extension. The large window in the administration block, left, lights a secondary staircase.







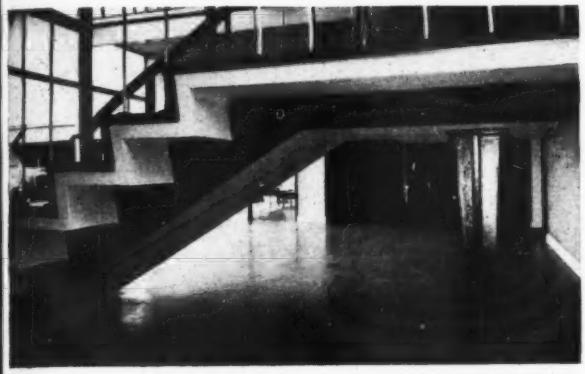


Viewpoint 8: the goods entrance, top left, is located off a subsidiary road that runs along the west perimeter of the factory. The site falls gradually towards the north, and changes of level are accommodated within the building by a drop of four feet between the floor level of the ancillary buildings and the production area. The production floor is four feet above ground level at the north end, thus forming a loading platform. The first bay of the main building houses a travelling crane and has a symmetrically-formed roof with patent-glazed clerestorey windows on both sides. Viewpoint 9, left: the vehicle access and its electrically-operated, sliding-folding doors. Viewpoint 10: below, the west elevation of the production building is faced in brickwork set clear of the structural frame, with a continuous strip of patent glazing over. The escape door on the right opens from the compressor room, and the one on the left from the dispatch inspection room. Viewpoint 11, above: set back from the west face of the building and close to the main road is the employees entrance. The small court on the right screens the electrical supply transformer.

FACTORY AT CRAWLEY





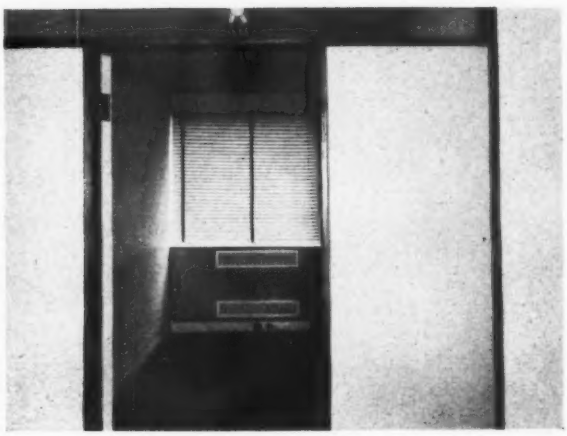


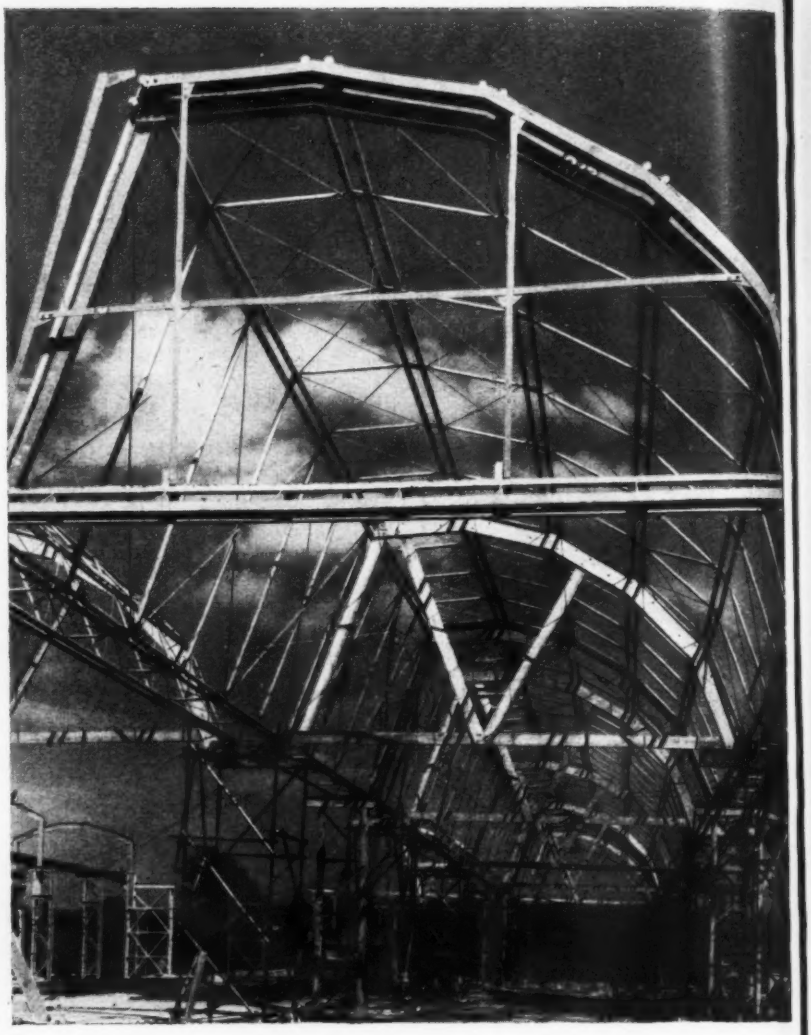
The double-storey entrance hall, top left, has a small enquiry desk behind a glazed screen, and a free-standing staircase gives access to the office accommodation above. The ground floor of the tower block has floor panel heating and colour is restricted to white, black and the natural finishes of materials. The main wall surface behind the staircase is painted strong green-yellow (Munsell reference 2.5. GM 8/10). The staircase itself has 2-in. thick concrete treads and risers, cantilevered from a concrete spine beam and is faced in gurjun. The dog leg landing, below left, is supported by a small tapered cruciform steel post, and a thin aluminium angle is used to cover the junction between the timber facing and the plaster finish.

The managing director's office (right) on the top floor of the tower also acts as a board room. Furniture in this room was selected by the architects. The noise level is diminished by the use of a fitted carpet and by an absorbent plaster ceiling. In addition to the heating pipes at floor level under the spandrel panels, a pressed-steel wall radiator is housed behind a removable grill of m.s. bars. In the remainder of the office block, internal partitions (right, bottom) are built up of exposed gurjun frames with hollow clay block infilling plastered both sides, wood block floors being used throughout. Specially constructed convector heater cabinets can be seen under the wide window-bottom, and artificial lighting is provided by unscreened twin fluorescent tube fittings giving 20 lumens per square foot. All windows in the block are equipped with venetian blinds for sun control. The production area is reached from the entrance by a covered way (viewpoint 4, below).





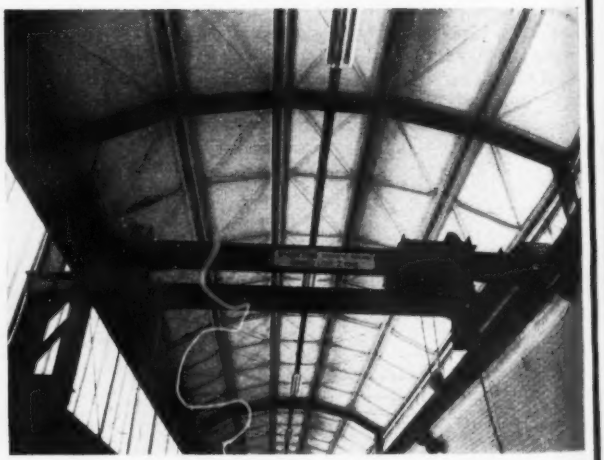




FACTORY AT CRAWLEY

Right: the north light roof is carried by prismoidal steel shells, which obtain their strength in the same way that pleated paper achieves greater rigidity than a flat sheet: stability is resolved by the making of folds or continuous junctions between structural planes. Such a method can be applied to various materials such as thin slabs of reinforced concrete or their equivalent in steel or timber frames. In this case light welded units, usually about 5 ft. wide, stiffened with tie rods were pre-fabricated and raised into position by crane on to temporary timber centering, the whole structure becoming rigid when bolted together. Below: at each side of the central span the shells are supported on welded portal frames and built up stanchions. The outer bays, 54 feet wide, are separated from the main shop by metal partitions and are used as storage areas. The shells are completely free of cross ties so that a travelling crane can be used along each bay. The curved asbestos-cement roof sheeting is lined with insulation board, and two continuous lengths of trunking per bay house twin-tube fluorescent lighting. Since fittings can be installed anywhere along these runs, the level of illumination can be easily varied or altered. Heating is by high level units with controls to vary the mixture of fresh and re-circulated air. [Roof illustrated as a Working Detail last week].





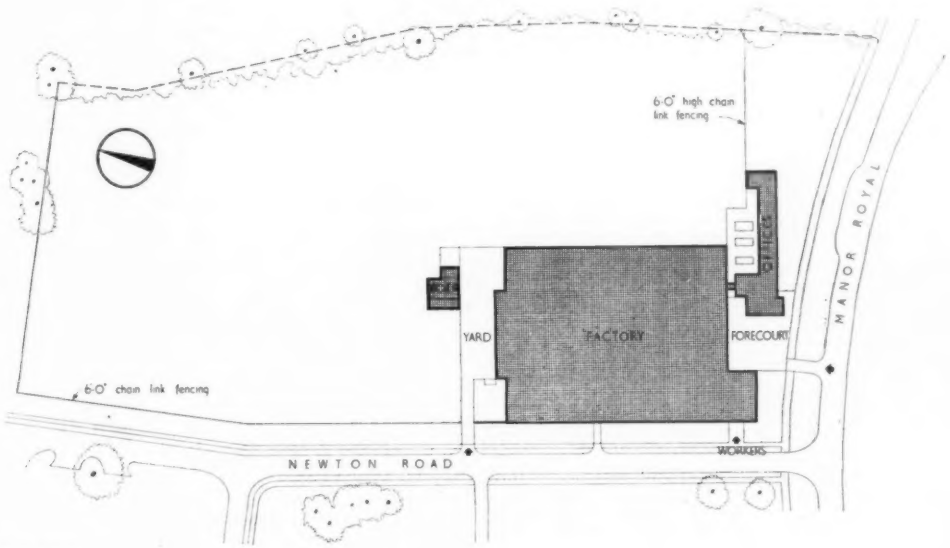
Above: the crane bay to the north of the main shop (see also viewpoints 8 and 9) has a symmetrical roof, but the same steel pre-fabricated units as in the rest of the factory have been used. To left and right at high level is the continuous glazing. Steelwork is painted grey with principal trusses and members blue grey, the remaining surfaces being white or cream.

CLIENT'S BRIEF: his stated requirements

Total floor area required 75,000 sq. ft. 65,000 in factory and 10,000 for offices. Factory to have maximum clear spans to allow maximum flexibility in moving of machines and making alterations for new processes. 100 per cent. expansion and siting of an additional factory for a subsidiary company to be allowed for

SITE: topography, surroundings, access, planting

The eleven acre site has a uniform slope to the north, and is surrounded by woods, fields and other factory development of the Crawley Industrial Estate, having access to a concrete road. There were no trees on the site but planting has been carried out to the architect's design



Site plan

PLAN: general appreciation and relation of units

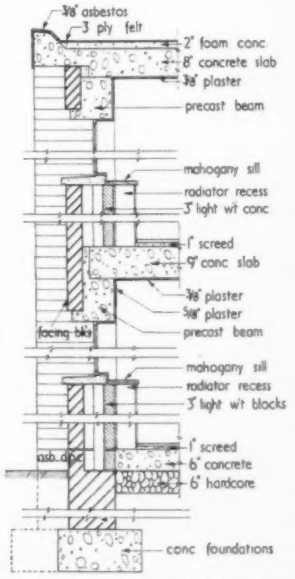
Whilst keeping to the functional requirements, it was required that the factory should be brought into the composition, and not hidden behind a veneer of offices. The workers entrance should also be part of the main approach, instead of concealed. The main problem was to link the office block to the factory, which was overcome by a dominant entrance tower at the point fully glazed on both sides so that one office block is visible

MAIN CONSTRUCTION

Load bearing element	*Location*	*Beam spans*	*Column grid*
Built-up RSJ columns and load-bearing brickwork	Factory	No beams, prismoidal steel shell construction	26 ft. × 108 ft. and 54 ft.
Load-bearing brick piers	Office block	21 ft.	14 ft.
Welded box stanchions	Entrance tower		

Foundation type	*Location*	*Sub-soil*	*Depth*
Mass concrete	Factory	Clay	6 ft. 7 in. approx.
Strip	Office	Clay	5 ft. approx.

Outer wall type	*Location*	*Material*	*Finish*
Brick panels non-load-bearing	Throughout, except east wall of factory which is asbestos	Sussex multi-coloured facings and Dorking blue-black facings	Coloured pointing: brown with Sussex bricks, nearly black with Dorking bricks
	North face of offices and east face of tower		Rendered patent finish



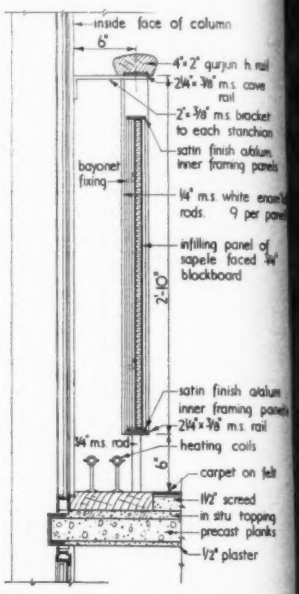
Section through administration block wall [Scale : ½" = 1' 0"]

Roof type	*Location*	*Material*	*Finish*	*Reasons*
North light welded prismoidal steel shell	Factory	Welded tubular steel	Curved asbestos cement sheeting.	Maximum clear span, no tie members. Minimum steel content
Pre-stressed concrete T's	Office and welfare	Concrete	Three layers felt	Minimum steel content

Floor structure type	*Location*	*Material*	*Finish*
Floating slab divided into area not exceeding 350 sq. ft.	Factory	Concrete	Granolithic
Suspended floor	First floor offices	Pre-stressed concrete T's	Wood block

Internal wall type	*Location*	*Material*	*Finish*
Patent glazed metal partitions	Factory	Steel place, wire mesh and glass	Painted
Hardwood frames and clay pot infilling	Office	Gurjun hardwood	Plastered and painted

Ceiling types	*Location*	*Material*	*Finish*
Concrete soffits	Offices	Plaster	Emulsion paint
Sound absorbent	Managing Director's office	Acoustic plaster	Distemper



Section through spandrel panel in tower block [Scale : ¾" = 1' 0"]

ARTIFICIAL LIGHTING

Source and fitting type	*Location*	*Illumination level*	*Comments*
Fluorescent continuous trunking unit	Roof of factory	7½, 15, 22½ and 30 ft. c., according to requirements	The continuous fluorescent trunking in the factory is fixed two rows per bay, and at the general level of 22½ ft. c. is fixed with tubes every other section. The addition of more tubes increases the level where wanted
	Storage areas	7½ ft. c.	
	Fine Machinery	30 ft. c.	
	Remainder	22½ ft. c.	
Fluorescent	Offices	20 ft. c.	
Tungsten with decorative fittings	Circulation areas	5 ft. c.	
Fluorescent, over each board	Drawing office	60 ft. c.	

Wiring and switching types	*Location*	*Reasons and comments*
Screwed conduit Trunking	In ducts and crawlways throughout	Position of light points pre-arranged to coincide with pre-cast pre-stressed concrete structure of offices. Cable trays are provided in ducts and crawlways for wiring to clocks, internal and G.P.O. telephones and loudspeakers

Power supply type	*How distributed*	*Reasons*
Trunking in duct Screwed conduit in floor PVC insulated cable	Two distribution boards per row of machines. Four-way outlet boxes at a regular grid approximately 12 ft. × 6 ft. Conduit in floor to outlet beside each machine	Flexibility of machine layout

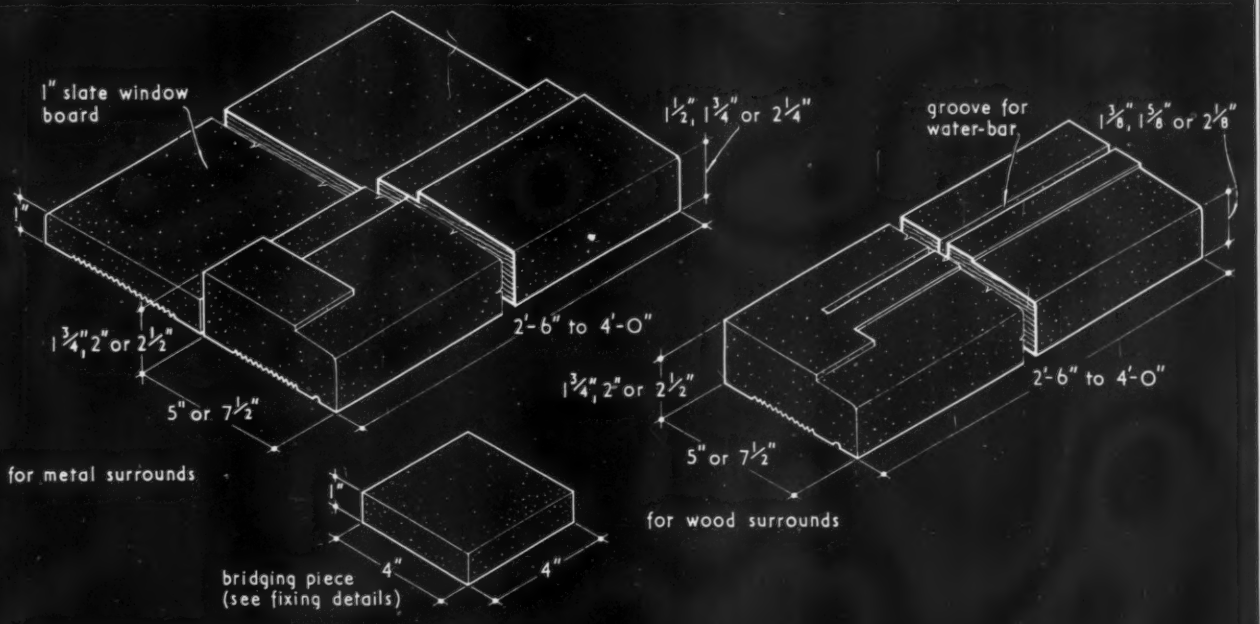
NATURAL LIGHTING

Wall glazing	*Location*	*Reasons and comments*
Patent glazing	West wall of factory	To provide a source of sunlight into an otherwise north-lit structure, but not over machines

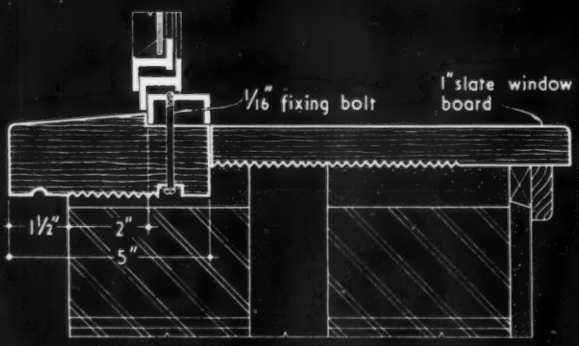
Roof glazing type	*Location*	*Reasons and comments*
Patent glazing	Factory north lights	Slight unevenness of light factor curve with north lights not a disadvantage for client's process. No sun wanted over machine area

WINDOWS | SILLS | SLATE

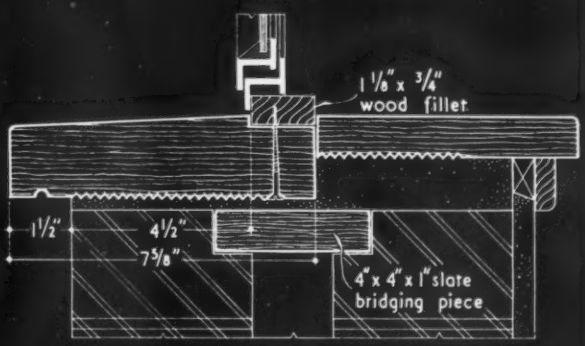
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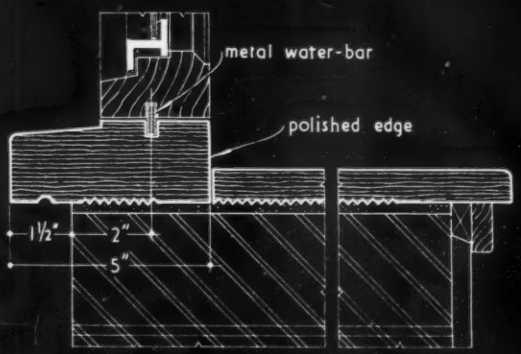
STANDARD DIMENSIONS.



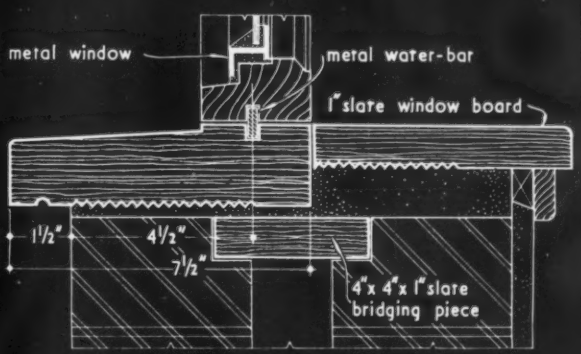
WITH STANDARD METAL WINDOW AND FRAME.
(showing 11" cavity wall)



WITH STANDARD METAL WINDOW AND FRAME.
(showing 11" cavity wall)



WITH STANDARD WOOD SURROUND.
(with 1'-1½" solid wall)



WITH STANDARD WOOD SURROUND.
(showing 11" cavity wall)

·WINCILATE· SLATE WINDOW SILLS: 2. Manufacturer: The Bow Slate and Enamel Company Limited.

24.Z3 ·WINCILATE· SLATE WINDOW SILLS : 2

This Sheet describes slate window sills 1¼ in., 2 in. or 2½ in. in thickness. These are for use where the design of a building calls for bolder sill lines than those provided by the 1-in. sills and combined sill and window boards described on Sheet 24.Z1. 1-in. slate surrounds for windows are described on Sheet 24.Z2.

Description

Two types of sill are available, as shown in the isometric sketches on the face of the Sheet ; one for use with standard metal windows and one for use with wood windows or metal windows with wood surrounds. The type for use with metal windows has a rebate in the top surface to take the window fixing and that for use with wood surrounds or windows has a raised surface grooved to receive a water bar. All sills may have one or both ends stooled for building in and are throated, weathered and scored on the underside to give a key for bedding. The sills are in straight lengths and may be mitred at one or both ends, or notched for fitting round columns.

Sizes

Sills are available in the following sizes:

For use with metal windows: 1¼ in., 2 in. and 2½ in. thick tapering to 1½ in., 1¾ in., and 2¼ in., respectively on the front edge; 5 in. and 7½ in. deep or 5⅛ in. and 7⅛ in. for use with hardwood fixing fillet; see notes on " *Fixing*."

For use with wood surrounds or windows: 1¼ in., 2 in. and 2½ in. thick tapering to 1⅜ in., 1⅝ in., and 2⅛ in. at the front edge; 5 in. and 7½ in. deep.

Both types are available in lengths from 2 ft. 6 in. to 4 ft. 0 in. and may be butt-jointed or check-rebated where longer lengths are required.

Fixing

The drawings on the lower face of the Sheet show typical fixings for the two types of sill. Metal windows may be fixed in two ways: to a metal channel section bolted through the sill, as shown in the first of the drawings, or to a hardwood fillet held by a screw through the sill. Wood surrounds for metal windows and wood windows are fixed as shown in the lower drawings, with a metal water bar. The sills are designed to accommodate standard reveal sizes of 2 in. and 4½ in. The 1-in. slate window boards which are used in conjunction with the sills are available in depths to suit varying wall thicknesses. They may be bedded level with the sill to reveal its polished inner edge or raised to line with the top surface of the sill. Where the 7½-in. (or 7⅝-in.) sill is used with an 11-in. cavity wall a slate bridging piece 4 in. by 4 in. by 1 in. thick is used to support each end over the cavity.

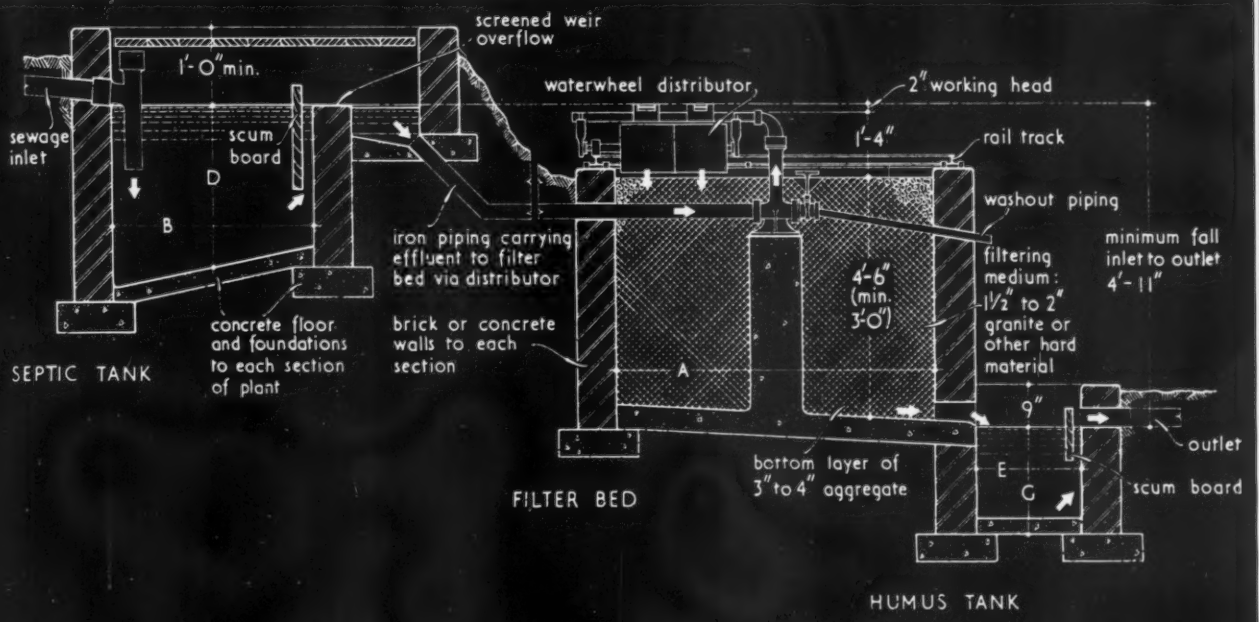
Finish

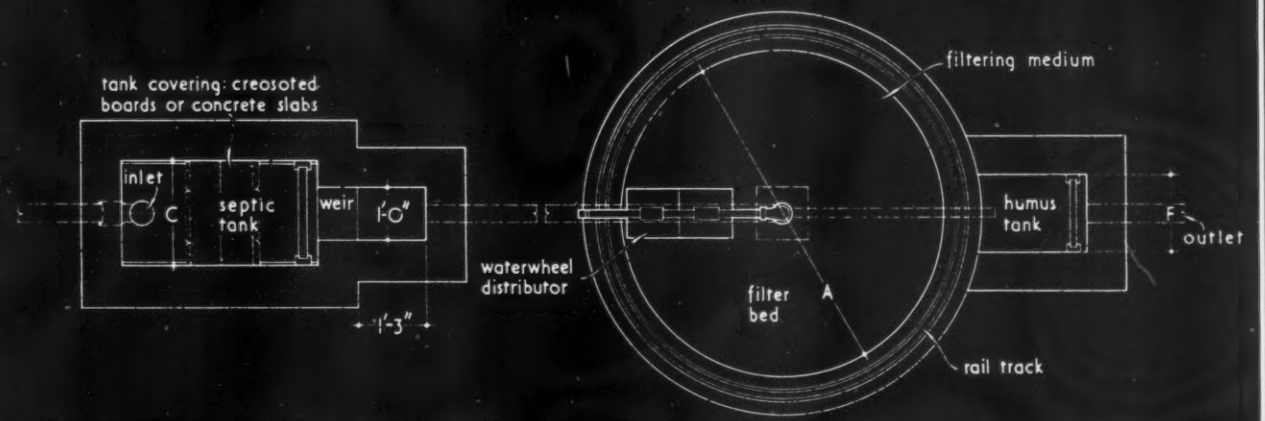
The slate of which the sills are made is specially selected for the uniformity of its natural blue-grey colouring. All exposed surfaces are polished smooth.

Compiled from information supplied by:

The Bow Slate and Enamel Company Limited
Address: British Railways Bow Depot, Old Ford Road, Bow, London, E.3.
Telephone: Advance 2203-5.

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LONGITUDINAL SECTION AND PLAN OF TYPICAL COMPLETE PLANT.

Evenflow size no.		1	3	5	7	9	11	13	15	17	19	21	23	25	27	29
number of persons		8	12	15	19	24	29	34	40	46	53	60	68	76	85	94
gal. per day (dry weather flow)		210	290	380	480	590	710	850	1000	1150	1330	1505	1700	1900	2130	2350
filter bed (4'-6" deep)	A	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"
	B	3'-9"	4'-9"	5'-0"	6'-0"	7'-0"	8'-1"	9'-0"	9'-4"	10'-0"	10'-2"	10'-9"	11'-0"	11'-0"	11'-3"	11'-9"
septic tank	C	3'-0"	3'-0"	3'-6"	3'-6"	3'-7"	3'-9"	3'-10"	4'-0"	4'-3"	4'-6"	4'-6"	4'-9"	5'-0"	5'-3"	5'-3"
	D	3'-0"	3'-3"	3'-6"	3'-8"	3'-9"	3'-9"	4'-0"	4'-3"	4'-3"	4'-6"	4'-9"	5'-0"	5'-3"	5'-3"	5'-3"
	E	2'-0"	2'-3"	2'-11"	3'-6"	3'-11"	4'-7"	5'-3"	5'-6"	6'-0"	6'-0"	6'-0"	6'-6"	6'-6"	6'-6"	6'-6"
humus tank	F	1'-7"	1'-9"	1'-9"	1'-10"	2'-0"	2'-0"	2'-1"	2'-2"	2'-3"	2'-4"	2'-6"	2'-6"	2'-9"	2'-11"	3'-0"
	G	1'-9"	2'-0"	2'-0"	2'-0"	2'-0"	2'-1"	2'-1"	2'-3"	2'-4"	2'-6"	2'-8"	2'-9"	2'-10"	3'-0"	3'-2"

TABLE GIVING APPROXIMATE DIMENSIONS OF PLANTS FOR VARYING REQUIREMENTS.

·EVENFLOW· SEWAGE DISTRIBUTOR. Manufacturer: Jones and Attwood Ltd.

33.L1 ·EVENFLOW· SEWAGE DISTRIBUTOR

This Sheet is the first of a series dealing with a method of purifying domestic sewage from isolated houses, hotels, schools, hospitals, service stations and other buildings where small communities are housed. The complete system consists of septic tank, filter bed, Evenflow sewage distributor and small humus tank. The drawing on the face of the Sheet shows a typical installation and the table gives the principal dimensions of the various compartments for establishments having varying numbers of permanent inhabitants. The figures are approximate only, the actual capacity of the plant depending upon an exact calculation of the volume of sewage and waste water to be purified, in addition to the usual factor of safety required in this type of work. The ultimate success of the plant depends upon the accurate designing and proportioning of the component parts.

Construction

The septic and humus tanks are generally constructed of brickwork and concrete with 9-in. rendered walls; the walls of the filter bed should be 9 in., unrendered. Floors and foundations of reinforced concrete of appropriate size should be provided. All walls, however, may be of concrete if desired. The central support for the sewage distributor may be either brick or concrete. The size is not specified by the manufacturer but 1 ft. 6 in. square is recommended for filters up to 10 ft. 0 in. in diameter and 2 ft. 0 in. for diameters from 10 ft. 0 in. to 20 ft. 0 in. On the smaller sizes of filter, it is not desirable to waste too high a percentage of the overall area but on larger sizes the pier can be more substantial. One cubic yard of filtering medium, as described on the drawing, should be allowed for 45 gallons of dry-weather sewage.

The units need not necessarily be arranged in a straight line as indicated in the plan on the face of the Sheet, nor is there any fixed spacing between the septic tank and the filter bed, but the sequence of the units in relation to the sewage inlet is always as shown, with a minimum fall of 4 ft. 11 in. between the sewage inlet and the outlet for the purified effluent.

Operation

Septic tank: The function of the tank is to reduce the suspended solids in the sewage, and this process is a biological one dependent upon the natural action of certain micro-organisms present in the absence of oxygen, namely, anaerobic bacteria. These organisms possess the power of transforming the complex matter contained in sewage, and it is by this means that the solids are gradually broken up and liquefied. The process entails the formation of scum or sludge on the surface of the water, and it is to prevent the disturbance or exit of this fermenting matter that the sewage inlet is made to discharge some distance beneath the surface, while the sludge is prevented from overflowing the weir by a scum board.

It is necessary to remove the sludge about once a year, and to facilitate this operation the tank covering should be made of creosoted boards or concrete slabs. With domestic sewage, free from grit or sand, the tank seldom requires emptying apart from the yearly de-sludging.

Filter bed: The liquid flowing from the septic tank is passed directly to the next unit of the installation, the filter bed. Here further biological action takes place, certain micro-organisms natural to all sewage being used for the process. These bacteria, known as the aerobic type, require oxygen for their functioning, and, after a short conditioning period, the filtering medium will be found capable of completely and permanently purifying the tank liquid during its passage through the filter.

Distributor: As can be seen from the diagrams, the tank liquid is sprinkled in small even doses on the upper surface of the filter bed by means of special machinery known as the sewage distributor. The Evenflow distributor is a waterwheel-driven machine, revolving about the central concrete support on a metal rail track fixed to the circular walls of the filter bed. The waterwheel is fitted with metal buckets and totally-enclosed, self-aligning ball bearings. The sewage flows into the buckets by gravity, causing the distributor to revolve and at the same time sprinkling the liquid regularly, evenly and automatically over the bed, irrespective of the rate of flow. The distributor will revolve even when receiving only the smallest amount and will sprinkle from the minimum to the maximum flow with equal efficiency. There are no small openings to restrict the flow, so that the distributor maintains high efficiency with little attention, except for occasional lubrication and cleaning. The machine is compact and noiseless and requires a minimum head of only 1 ft. 6 in. to be completely automatic in action. No dosing syphon is necessary, while the controlled distribution enables the bed to function for long periods without attention. The mechanism is guaranteed for twelve months against faulty material or workmanship.

Humus tank: Humus and any pieces of filtering medium washed from the filter bed are retained in the humus tank.

Installation

The fixing of the machine on to the filter bed is a simple operation. The manufacturer will install the apparatus if required, but unless the site is very near to the works the cost of travelling, etc., involved make it an uneconomic proposition for the purchaser.

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Address : Titan Works, Stourbridge, Worcs.
Telephone : Stourbridge 5106-8
Telegrams : Heat, Stourbridge

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THERMAL INSULATION

Type	*Location*	*U-value*	*Comments*
Insulation board	Factory roof	0·36	Essential
Vermiculite screed	Flat roofs and factory gutters		Simpler to apply than foamed concrete and better than other light-weight aggregates

HEATING AND VENTILATION: artificial and natural

Heat exchange type	*Location*	*Criteria temperature*	*Air change rate*	*Reasons*
High level unit heaters	Factory	60° F.	3 per hour	To maintain clear floor space with adequate heat distribution. Appearance and differing use of wall areas
Convector heaters and radiators	Office	65° F.	2 per hour	
Floor panel	Entrance hall	65° F.	2 per hour	

Boiler type and capacity	*Heat load*	*Fuel type*	*Stoking method*	*Reason for choice*
Cast-iron sectional	4 × 2,000,000 BTU/hr.	200 sec. oil	Fully automatic	Client's preference. Economic and clean

Water heater and hot water storage type	*Location*	*Materials*	*Capacity*
Vertical galvanised calorifiers, annular heaters	Various	Galvanised mild steel	350 gall. total

Pipes and jointing types

Mild steel class "B" and "C," screwed and welded joints

Cold water storage	*Location*	*Materials*	*Capacity*
Sectional tank, 9 ft. × 6 ft. × 6 ft.	Entrance tower	Pressed steel	2,474 gallons

REFUSE DISPOSAL

Refuse method	*Type of refuse*	*Waste disposal*
Swarf pit	Swarf	Removed by a contractor
Dustbins	Kitchen	

SPECIAL ACOUSTICAL TREATMENT

Sound absorption material	*Location*	*Absorption coefficient*
Acoustic plaster	Board room	0·35 at 500 cycles/sec.
	Managing Director's office	0·6 at 1,000 cycles/sec.

Sound insulation	*Location*	*Comments*
To base of storage tank	Tank room	Supplied by clients, who are specialists in anti-vibration mountings

SOIL WASTE

Type of system	*Location*	*Materials*	*Method and comments*
Normal to foul sewer	General	Salt glaze and cast iron	Normal
Effluent from plating shop	Plating shop	Acid resisting	Special neutralising chamber

Rainwater disposal type	*Location*	*Materials*	*Comments*
Normal to surface water sewer	General	Salt glaze and cast iron	Special drain and pump to crawlways

FIRE

Structural precautions	*Grade of protection*	*Apparatus, sprinklers, etc.*	*Planning precautions, access for fighting*	*Means of escape*
None	To meet Insurance Company requirements	Special Fire Main and hoses	Three sides have vehicular access	Escape doors to Factory Inspector's requirements

COLOUR

Paint types	*Where used*	*Colour treatments*
Acid-resisting oil	Factory interior	Steel wire brushed, rust inhibitor, primer-undercoat, grey and blue finish
Emulsion	Plasterwork	Offices and welfare painted off white, with lime green panels. Entrance hall, lime green, dark green, white and black
Oil	Softwood and steelwork	Steelwork to entrance tower had all welds ground down, and several applications of filler before undercoats and finish in white

TIME SCHEDULE

Drawings	*Contract signed*	*Work commenced*	*Work completed*	*Type of contract*	*Comments*
February, 1953	August, 1953	September, 1953	December, 1954	Negotiated by quantity surveyor with client's nominee contractor	Whole contract finished to time though factory portion late owing to 3 months' steel erectors strike

COST ANALYSIS: comments

Total ground floor area of superstructure:
- (*a*) Office block 5,589 sq. ft.
- (*b*) Boiler house 1,368 sq. ft.
- (*c*) Factory and welfare block 67,256 sq. ft.
- (*d*) Total 74,213 sq. ft.

Total floor area (no basements):
- (*a*) Office block 11,446 sq. ft.
- (*b*) Boiler house 1,368 sq. ft.
- (*c*) Factory and welfare block 67,256 sq. ft.
- (*d*) Total 80,070 sq. ft.

Tender date.—August 11, 1953.

	Excluding Preliminaries & Insurances	*Including Proportion of Preliminaries & Insurances*
Tender cost of superstructure.		
(*a*) Factory and welfare block	£55,753	£64,999
(*b*) Office block and boiler house	£16,689	£19,456
(*c*) Whole job	£72,442	£84,455
Tender cost of installations and finishings		
(*a*) Factory and welfare block	£54,786	£63,871
(*b*) Office block and boiler house	£16,390	£19,108
(*c*) Whole job	£71,176	£82,979
Tender cost of foundations including ground floor construction.		
(*a*) Factory and welfare block	£26,588	£30,997
(*b*) Office block and boiler house	£4,256	£4,962
(*c*) Whole job	£30,844	£35,959
Tender cost of external works.		
(*a*) Proportion for factory and welfare block	£9,303	£10,846
(*b*) Proportion for office block and boiler house	£3,450	£4,022
(*c*) Whole job	£12,753	£14,868
Gross total tender cost.		
(*a*) Factory and welfare block	£146,430	£170,713
(*b*) Office block and boiler house	£40,785	£47,548
(*c*) Whole job	£187,215	£218,261
Tender cost per foot super of floor.		
(*a*) Factory and welfare block	£2 3*s.* 6½*d*	£2 10*s.* 9½*d.*
(*b*) Office block and boiler house	£3 3*s.* 8*d.*	£3 14*s.* 2½*d.*
(*c*) Whole job	£2 6*s.* 9½*d.*	£2 14*s.* 6*d.*
Tender cost per foot cube.		
(*a*) Factory and welfare block	1*s.* 8*d.*	1*s.* 11½*d.*
(*b*) Office block and boiler house	4*s.* 4*d.*	5*s.* 0½*d.*
(*c*) Whole job	1*s.* 11¼*d.*	2*s.* 3*d.*

Element	*Total cost* £	*per foot super* s.	d.
Preliminaries and insurances (including provision for importation of labour for general contractors work)	15,601	4	7½
Contingencies	8,682	2	7
Work below ground floor level including ground floor construction	26,588	7	11
External walls and facings	4,492	1	4
Internal load bearing walls	569		2
Internal partitions	5,135	1	6½
Steel frame	22,761	6	9½
Roof construction and finishings (excluding steelwork)	16,188	4	9½
Roof lights	121		½
Floor finishes	6,687	2	0
Windows and external doors (including external shutters)	1,388		5
Patent glazing	6,093	1	9½
Internal doors (including internal shutters)	960		3½
Wall finishes (faced brickwork included with walls)	850		3
Built-in finishes (including fittings)	1,312		4½
Ironmongery	294		1
External plumbing	394		1½
Internal plumbing	1,123		4
Sanitary fittings	649		2½
Cooking equipment	1,061		3½
Gas installation	657		2½
Electrical installation	16,383	4	10½
Heating, hot water, compressed air and ventilation installation	19,215	5	8½
Drainage	3,247		11½
Glazing (excluding patent glazing)	178		½
Decoration	3,629	1	1
Builders work in connection with client's machinery	400		1½
Paved areas, grassing, retaining walls, fences, gates and cycle racks	6,056	1	10
Difference between tender cost and anticipated final cost (due to increases in cost of labour and material and to labour difficulties in connection with erection of steelwork)	5,000	1	6

TECHNICAL SECTION

Architects tend to take it for granted that the wheels of marketing and salesmanship run smoothly enough to ensure that any good ideas in the sphere of heating appliances are exploited quickly. Mr. A. C. Hazel, Managing Director of Hurseal Ltd., speaking at the Gas Sale and Service Conference, said that this was true of solid fuel and electrical appliances, but not of gas. Gas Boards it seems are unwilling to " have a go " with a new product by showing it in their showrooms before there is a demand. They say that the manufacturer must first create the demand by his national advertising. But, as Mr. Hazel points out, you cannot expect people to ask for a product unless they can see it and have it demonstrated to them. Though Mr. Hazel pays tribute to the readiness of Watson House to test and give advice on new gas appliances, he maintains that this marketing policy is an effective damper on any manufacturer who has a radically different product to develop. Whether or not Mr. Hazel's strictures in this case are just, it is clear that the rate of technical development depends on the readiness of all parties—manufacturers, merchants, clients, even architects (provided they understand what they are commending)—to " have a go " with new appliances, and, if so influential a party as the Gas Boards hang back, development is slowed down to a snail's pace.

This week's special article

HEATING AND VENTILATION
the use of oil for domestic heating

The number preceding the week's special article or survey indicates the appropriate subject heading of the Information Centre to which the article or survey belongs. The complete list of these headings is printed from time-to-time. To each survey is appended a list of recently-published and relevant Information Centre items. Further and earlier information can be found by referring to the index published free each year.

The rise in the cost of solid fuel and the improved supply of fuel oils have both given prominence to oil for heating, and recently much publicity has been given to its use for heating small houses. This week, therefore, we have asked a heating engineer, L. J. Fowler, and a mechanical engineer, G. T. K. Dean, to set down whether, in their view, oil is a likely choice for this purpose. While they point out that its intrinsic merits are great, they give their opinion that the range of oil burning appliances at present available does not allow us to make best use of the fuel in small houses.

Though, to the ordinary domestic user of fuel in this country, convenience counts for much, cost still counts for more. Up to now solid fuels have had a substantial margin in their favour, though this margin is now rapidly narrowing. In relation to gas and electricity the cost of oil is very low, and while the basic cost of oil may still be higher than that of solid fuels, the cost per unit of heat effectively used may well be lower in suitable cases, due to the greater control which can be exercised. With solid fuel (unless there is to be constant re-lighting and discomfort) it is necessary to keep the fire burning during periods when no heat is actually required, and due to the need for

de-ashing and stoking, the difficulties of obtaining and maintaining the right rate of combustion to give the required heat (but only the required heat, and no more) are appreciable.

Oil shares with gas and electricity the virtues of extreme controllability, and with it the maximum fuel economy can be achieved by the elimination of overheating during the occupied times, and of stand-by losses during the un-occupied times. All this can be in many cases achieved completely automatically and allows of a heating system which is a "heat machine" producing and distributing the heat precisely as required, without manual attention. With such a heat machine giving a quick pick up of temperature (an oil burner gives full output immediately on lighting) then a maximum degree of intermittency can be achieved, and this in turn ensures maximum economy.

Thus in the case of the larger installations where the cheaper, heavier grades of oil can be used and the cost of the oil burning equipment does not represent such a high proportion of the total cost of the heating system, oil has everything to commend it. For the small domestic installations needing 30,000 to 60,000 B.T.U's per hour with which this article is chiefly concerned, the position is not so clear. Compared with solid fuel appliances, apparatus for burning oil is at the moment relatively costly, and whether the householder is prepared to face the extra expense will depend upon his willingness to regard the expenditure as an investment bringing dividends in the form of reduced domestic labour, probably reduced expenditure on decorations and maintenance, and possibly (taking a long term view) lower fuel costs. On the grounds of convenience oil scores heavily over solid fuels. Delivery to the premises is quick and clean, and transfer to the apparatus is either automatic or quite simple. If advantage is to be taken of the lower prices offered for bulk deliveries, then substantial storage is required, and the householder must be prepared to buy his fuel in bulk, but this does bring independence of weather and other troubles which may disrupt fuel supplies when fuel is most needed. There are no ashes to be disposed of.

Thus far, the prospects of oil as a domestic fuel appear attractive, but a somewhat different picture comes to light when suitability and availability of the necessary apparatus is considered.

AMERICAN PRACTICE

Frequently it is stressed that oil heating is an accepted and commonplace practice in North America, and other parts of the world, but it does not follow that the same conditions can, or should, apply in Great Britain. There are many factors to be considered when making comparisons.

The first and most unalterable is that the average winter temperatures in North America, Scandinavia, etc., are much lower than in England. However bad the British weather may be, the climate is remarkably mild, and it may be that the English love of the open fire derives from the need for something cheerful to offset the weather, rather than something efficient to counteract the cold. Relatively speaking, for the American, heating is a major necessity of life, for the Englishman merely a great comfort. It follows, therefore, that the American must allow for a higher proportion of his domestic expenditure being spent on his heating equipment (or ancillary equipment, such as structural insulation) and on his fuel. On top of this he requires a higher indoor temperature, and in general the houses are larger than those occupied by comparable people in England. Thus the savings to be derived from the efficient use of fuel become more important than the capital costs, and when the American emphasis on domestic labour saving is added to all this, the case for oil becomes much stronger than in England.

In general, therefore, it is most unwise to hold up American practice as an example of what should, or is likely to, occur in England, and the British problem must be reviewed entirely on its own merits. It is here that consideration of adaptability and availability become of major importance.

METHODS OF USING OIL

There are three main ways of using oil for domestic heating:—

(1) By using an oil burner in the boiler of a central heating system. Generally this implies using a boiler designed for use with solid fuel as units produced specifically for oil firing are not available in small sizes.

(2) By a direct fired air heater, *i.e.*, heating the air directly in the same apparatus in which the burner is housed normally without the intervention of another medium such as the water or steam used in the normal central heating.

(3) By burning the oil in the space to be heated so that the products of combustion escape into the room.

(N.B. The terms "indirect" and "direct" are sometimes used to differentiate between heaters of types (2) and (3), respectively.)

OIL BURNERS IN CENTRAL HEATING SYSTEM

Obviously the first arrangement allows oil to be used in virtually any building, new or old, and in the case of existing heating, it would appear simple to fit the boiler with some form of oil burner. Unfortunately, when small domestic installations are being considered the number of burners available is rather limited and the suitable ones are in themselves subject to limitations.

There are three main types of burners available.

(*a*) GUN BURNER

The most generally satisfactory is the gun type (a pressure jet atomizer) where the oil is ejected from an orifice in a fine spray and burns in air which is blown around it by a fan. This is a very reliable type of burner and can be used with all grades of oil providing the heavier ones are pre-heated to the temperature required to give the right viscosity. Ignition is normally by electric spark, and the whole apparatus can be made fully automatic, shutting off and re-lighting as the thermostatic control dictates. The weakness as far as the present application is concerned is that there is a minimum size of orifice which is practicable, so that the minimum rating for which such a burner is available is around 65,000 B.T.U.'s per hour. There are actually very few units available at this rating and 75-80,000 B.T.U.'s is the general minimum so that the gun type burner is not available for any but the larger domestic installations.

(*b*) AIR ATOMISING BURNER

The next type to consider is the medium pressure air atomizing burner. In this, air is delivered and mixed with the oil at the nozzle, the spray (or "atomization") necessary for good combustion being derived from the air pressure and not the oil pressure. This means that for the same oil quantities nozzles can be larger and hence these burners

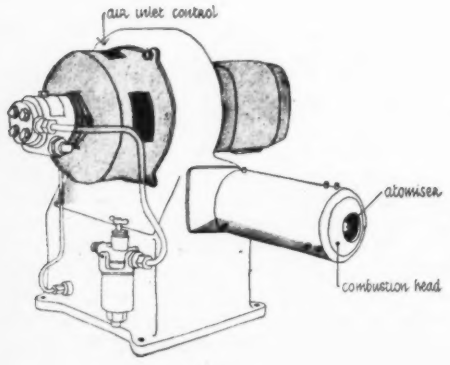


Fig. 1. Left, Doby L4/1 pressure jet burner. Rating 75,000-175,000 *B.T.U./hr.*

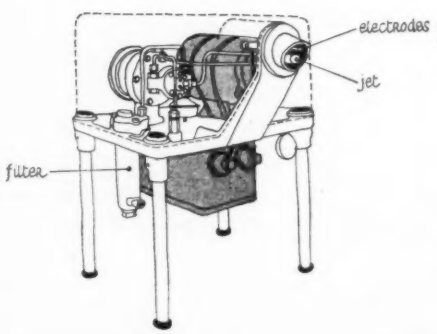
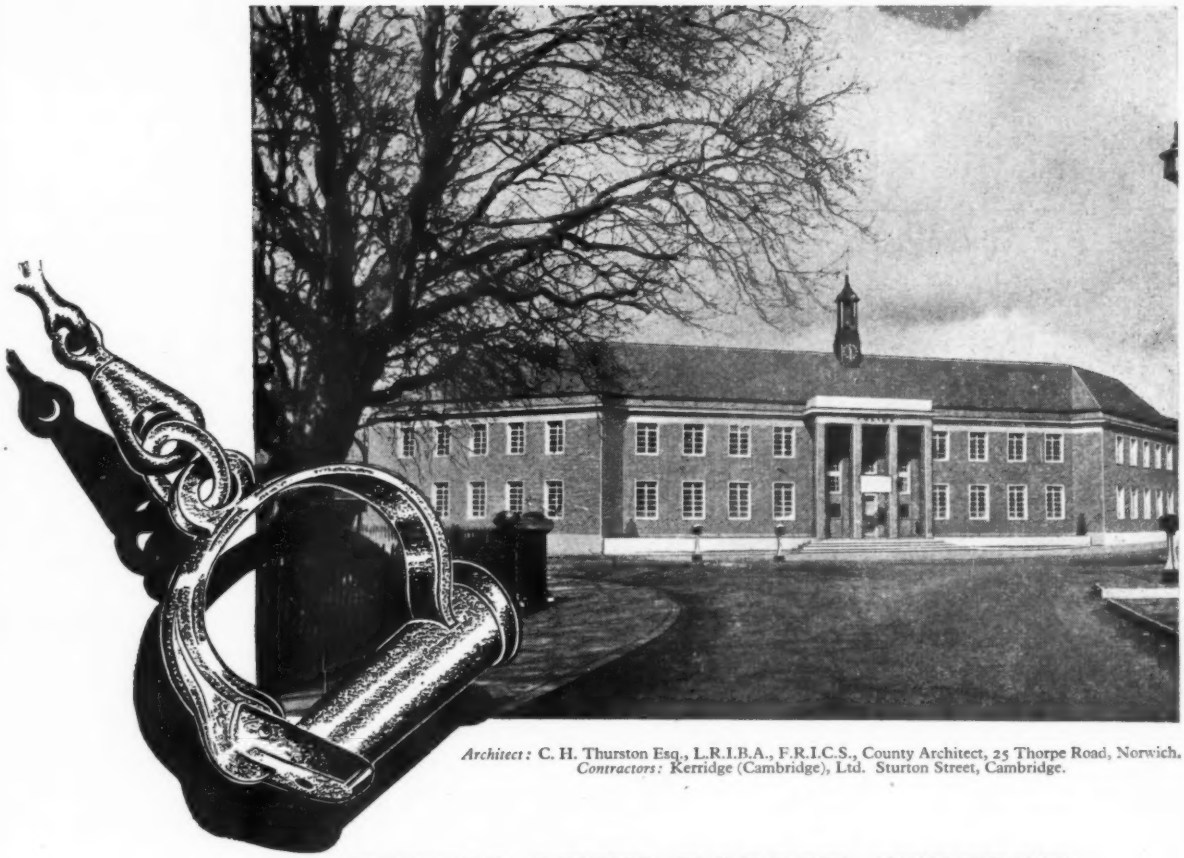


Fig. 2. Right, Samoa medium pressure atomiser. Rating 30,000-100,000 *B.T.U./hr.*



Architect: C. H. Thurston Esq., L.R.I.B.A., F.R.I.C.S., County Architect, 25 Thorpe Road, Norwich.
Contractors: Kerridge (Cambridge), Ltd. Sturton Street, Cambridge.

KING'S LYNN POLICE STATION

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'PUDLO'
BRAND

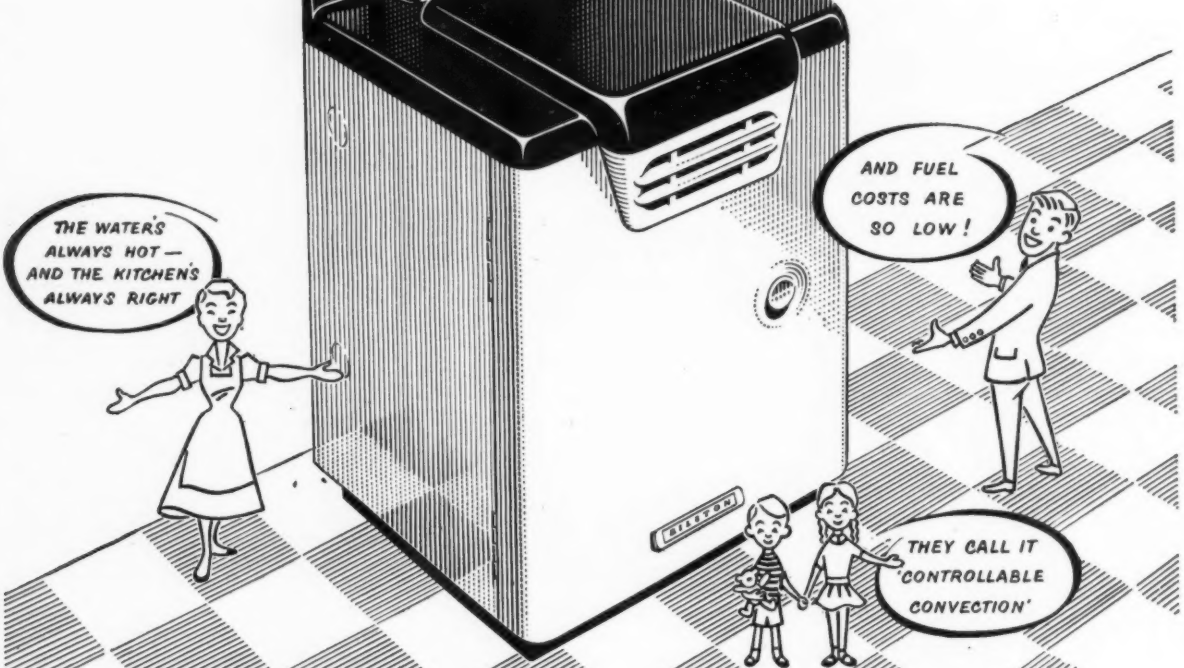
Descriptive Booklet sent on request.

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are available in lower capacities than the gun type units and are produced for outputs as low as 20,000 B.T.U.'s per hour. As with the gun type automatic electric ignition is provided but, generally speaking, this class of burner is high in capital cost relative to the gun type and certainly high in relation to the third category—the vaporizing or "pot" burner. Further, the number of types of small medium pressure air burners being manufactured is very small.

(c) "POT BURNER"

For domestic heating in smaller homes, therefore, interest is centred chiefly on the vaporizing burner which may operate either under natural draught, when the air for combustion is drawn in by the chimney "pull," or forced draught, when the air is provided by an electric fan. As the names imply, these units operate by vaporizing the oil from a bowl or "pot" into which it is fed, by gravity, under the control of a float operated constant level device. Such a burner is, therefore, limited exclusively to oils which will vaporize completely, *i.e.*, to the expensive grades.

In the case of larger boilers and the larger capacity oil burners discussed earlier, it is common practice to line a portion of the boiler with firebrick in order to maintain hot surfaces around the flame to promote complete combustion. With small boilers using vaporizing burners, bricking becomes difficult because (*a*) the burner takes up appreciable space in the boiler and (*b*) the heating surface available is limited and therefore very little of it can be sacrificed. For these reasons it is unusual to brick round a vaporizing burner and the danger then occurs that oil evaporated from the pot will condense on the cold boiler walls and eventually a coating of oil and soot may form which can lower the boiler efficiency and be very messy to clean off. This danger is normally more obvious with natural draught burners which depend upon the heat of combustion to induce the necessary air movement than with the forced draught type, and the forced draught burners have gained in popularity during the last few years. The normal operation of these burners is "high-low" flame, *i.e.*, there is usually no automatic ignition but when the thermostat is not calling for heat the flame is reduced in size to the minimum which can burn satisfactorily. This arrangement is comparable, from the fuel consumption point of view, with the better type of automatic solid fuel boiler, but as the fan is operated continuously the electric consumption is liable to be higher. The combustion of the oil in these burners at full output can be very efficient and, therefore, a high boiler efficiency is possible. To obtain a high boiler efficiency with oil firing does however demand an appreciable amount of secondary or flue heating surface, and in many of the small boilers used in houses such secondary surface is at a minimum as they have been designed for solid fuel where the major heat transfer takes place directly from the incandescent fire bed to the surrounding boiler walls. Additional secondary surface can be added in the form of an "economiser" in the flue pipe but this increases the cost.

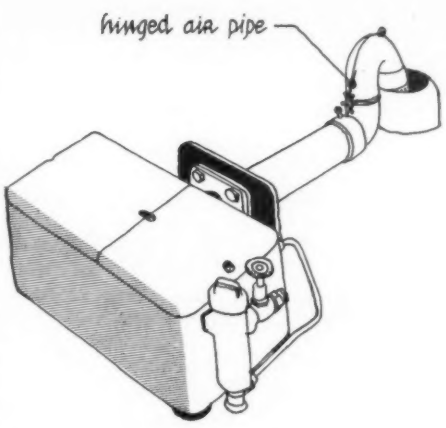


Fig. 3. Nu-way Home Fire vaporising burner. Rating 15,000-65,000 B.T.U./hr.

Summarising, therefore, the main hope for houses heated by central hot water systems lies in the fan assisted vaporising burner, but as this stands at the moment it does not compete seriously in operating costs with the good quality thermostatically controlled solid fuel boiler because it uses an expensive class of oil, the boiler efficiency is liable to be low, there are stand-by losses of both oil for pilot flame and electricity for the fan. When a small boiler specifically designed for use with these burners is produced and when the burners are fully automatic and self-igniting there may be a radical change in the position.

DIRECT AIR HEATERS

Turning from boiler plants to direct fired air heaters, these again are popular in the U.S.A., but until recently virtually non-existent in Great Britain. The basement warm air stove has long been a feature of American domestic heating practice, and whether the need for the heating led to the basement and the open planned house, or vice-versa, the three factors are largely concomitant. The air is warmed in the basement and rises, perhaps through a certain amount of duct, spreads around the house and as it cools gravitates back to the basement. This is a nice simple system, and if by oil firing, the basement, freed of fuel and dust, can be converted into extra living space there is a direct economic inducement to make the change. In England, basements have rarely, if ever, gone with open plans, and whilst the trend is now to the more open design, basements have largely disappeared. Here again it is necessary to look at British problems on their own merits, and the fact must be faced that the only domestic oil heating appliance which has been produced and sold in quantities in England is the ordinary "paraffin stove" where the products of combustion are discharged into the room. The reasons for its popularity are obvious—it is cheap in the first case, it is

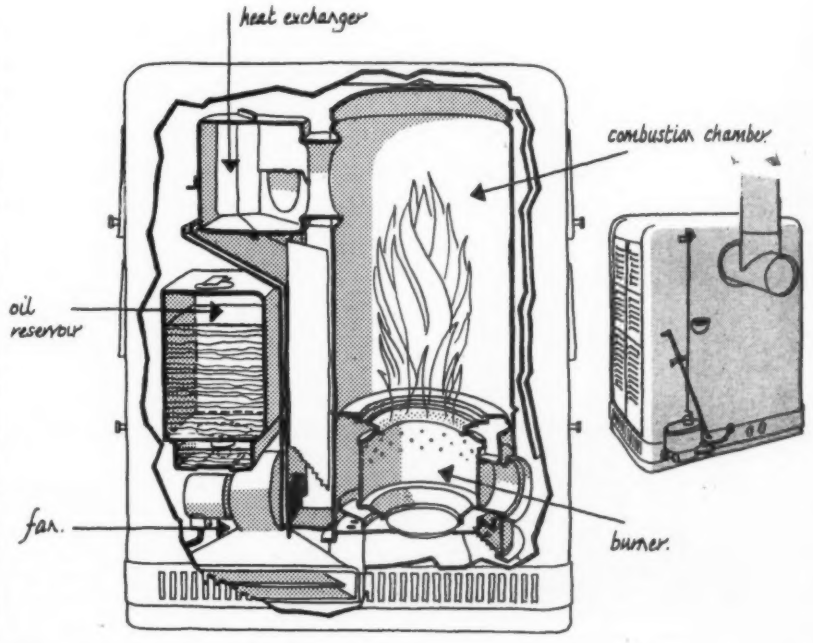


Fig. 4. An American oil burning air heater with fan.



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ELECTRICITY

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portable so that one heater can be used in any room, it needs no fixing and the fuel can be bought by the two shillings worth, as and when required, from any garage or the shop around the corner. The fuel is admittedly the most expensive but the efficiency is the highest obtainable. The disadvantages (with a well designed apparatus), are the slight contamination of the atmosphere with some smell on lighting and extinguishing, the need for occasional cleaning and in some cases wick trimming, and the re-filling of the reservoir. Added to these is the lack of thermostatic control.

CONCLUSION

Returning to the question of forced draught burners it is clear that in order to produce something with lower running costs it would be necessary to use lower priced fuel, which entails a closed combustion chamber and a flue, and to provide thermostatic control. To provide a flue immediately suggests the desirability of one unit to warm the whole house, and whilst it is feasible that with a reasonably open plan the right strategic position for the unit may be arranged to coincide with a suitable position for the flue, this will not be a general case in a house without a basement. The chances are small of selecting a place for a unit where the gravity air circulation will be sufficient to remove an adequate amount of heat from the apparatus and at the same time distribute it effectively into the spaces where it is required.

The next stage, therefore, is the installation of the heater in a cabinet with the addition of a fan and possibly ducts. With such an arrangement consideration must be given to possible fire risks for if a leak of oil should occur it is feasible that oil vapour or even flame may be blown into the ducts. It would appear advisable to have access to a heater installed in this manner from outside the house.

The thermostatic control also presents problems and the provision of domestic hot water has to be considered.

The latter may be supplied by an independent heater (which usually uses an even more expensive fuel) or by heaters incorporated in the units in which the water may be heated by the hot air (a patented arrangement) or by the flue gases. Taken together, all these factors lead inevitably to an installation which is generally appreciably higher in capital cost than existing well-developed heating and domestic hot water units based on the small thermostatically controlled solid fuel boilers or stoves using what is still the cheaper fuel.

It is difficult to give actual installation costs for different heating methods but the small vaporizing burner with controls costs around £50-£60. On to this must be added the cost of oil tank and installation work so that for a boiler and radiator system the cost for oil firing is about £100 and upwards above the cost of the solid fuel installation. It has been estimated that one fan assisted ducted warm air system costs £350 to £420 this being a total cost and includes hot water heating and storage. At the other end of the scale, a free standing direct fired heater, including a small built on fuel tank, can be purchased for a little over £40 but if the benefit of bulk oil purchase is to be secured there will be extra cost involved for a larger storage tank and pipework. Reluctantly, therefore, the conclusion must be reached that for the small house and lower income householder, heating by oil remains a luxury in this country. Much thought is, however, being given to the problem, and with more and more varied apparatus making its appearance, sooner or later the right answer must be found.

INFORMATION CENTRE

A digest of current information prepared by independent specialists; printed so that readers may cut out items for filing and paste them up in classified order.

2.139 planning: general
PLANNING GRANTS

Town and Country Planning Acts, 1947 *and* 1954. (Explanatory memorandum on the revised system of Exchequer Grants to Local Authorities. HMSO.)

This publication explains the regulations which bring into force, with effect from April 1, 1955, the revised system of grants payable under the Town Planning Acts. These regulations (made by the Minister of Housing and Local Government under Section 93 of the 1947 Act, as re-enacted by Section 50 of the 1954 Act) provide in general for a grant over a maximum period of 60 years at a rate of 50 per cent. of the notional annual loan charges arising from expenditure by Local Authorities in respect of:—

1. The acquisition, clearing and preliminary development of land bought for redevelopment purposes.
2. The meeting of compensation payable in certain cases under the 1947 Act.
3. In respect of buying and restoring buildings of special architectural or historical interest.

In addition, the Government will grant up to 75 per cent. of the cost of buying land for open space purposes, the amount of grant depending upon the financial circumstances of the Local Authority concerned.

The Memorandum sets out procedure to be followed by Local Authorities applying for grant, indicates factors to be considered when defining "grant units" and explains the basis on which grants will be calculated. It outlines arrangements for the transition from schemes previously in force to the new system. Appendices to the Memorandum give valuable assistance in matters of detail and the Minister has now defined, under Appendices C and D, expenditure which he considers requisite for making land available for redevelopment under the headings of "Clearing" and "Preliminary Redevelopment" and on which grant will be paid.

While the revised system seems to be generally less complex than the one which it replaces, and in the case of grants for open space is certainly more generous, the redevelopment of obsolete areas for housing purposes will remain an expensive business for Local Authorities who are still left to meet the heavy building costs incurred in redevelopment. In view of the Minister's policy for an acceleration of slum clearance, this point may need fresh thought in the fairly near future.

7.46 practice
PERSPECTIVE DRAWING

How to use Creative Perspective. Ernest W. Watson. (Reinhold Publishing Corporation, New York, 1955. 60s.)

It is often found desirable to include sketch perspectives with clients' drawings, but usually it is not possible to employ a professional artist to do them. This book should prove valuable in such cases; it goes into some detail on the fundamental principles underlying perspective drawing in all dimensions, and contains some useful ideas on avoiding some of the more frequently encountered snags—such as what to do when one vanishing point is situated a long way off the drawing board. It also shows, by means of examples, how to take liberties with the textbook rules, and to "cheat" convincingly, as is so often necessary. The book also includes some information on the application of perspective to such items as staircases, reflections, shadows, and human beings.

9.53 design: general
MODULAR DESIGN

Four Reports to the New Technical Committee. (The Modular Quarterly Summer, 1955. 5s.)

1. The Thickness Problem. By A. M. Gear.

Discusses problems raised by relations of element to grid line caused by varying thickness of elements. External walls, partitions, floor and roof slabs and ceilings are each dealt with briefly. A series of diagrams show alternation arrangement and list advantages and disadvantages. There are almost enough problems raised here to deter one from attempting to use a modular system! Certainly no clear cut recommendations came out of this report but presumably it is intended only as a preliminary canter in which the problems are stated. In doing this it does a useful job.

2. The Jointing Problem. A. L. Osborne.

A useful outline of the problems. Tolerances *must* be allowed for and this means that it becomes essential to have a "total Joint" allowance. The planning grid becomes of secondary importance—several grids can be used on the same building—and the "total joint" and the "phase grid" are relevant to all modular structures above a certain size. In practice, problems become much less in buildings where the greatest dimension is less than about 40 ft.

3. Tolerance. R. A. Sefton Jenkins.

A very brief note. Suggests that investigation should be made to see whether a system of limits and fits could be standardized for factory-made components somewhat on the lines of those accepted in the engineering industry in B.S. 1916, Part 1.

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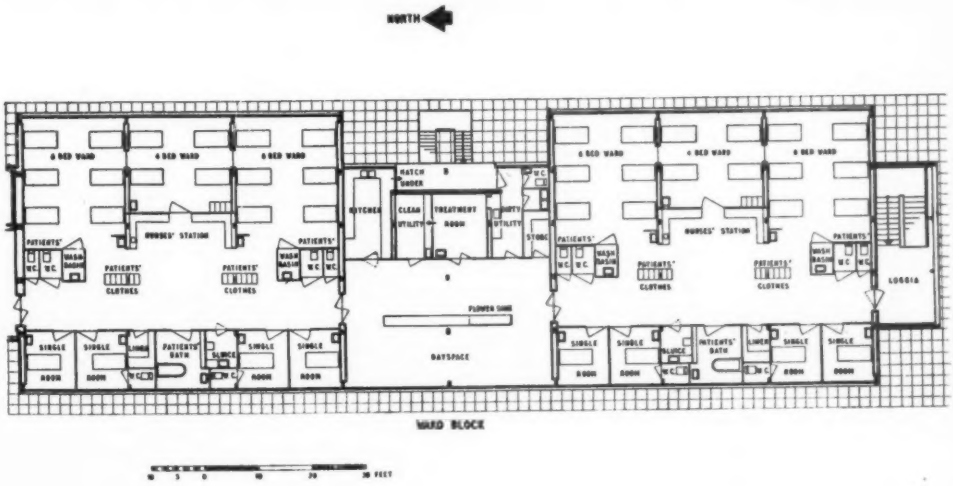


Fig. 1. Plan of experimental ward unit at Musgrave Park Hospital Belfast. (See item 10.137) Note the beds, three deep from the outside wall, and the day space for ambulant patients.

4. Costs and Costing. S. F. Mill.

Too brief to be of much use. This note merely records that claims of 10 to 20 per cent. savings have been made for modular construction. Savings in design time in architects' and engineers' offices may be possible but the author does not think this would apply to quantity surveyors' work. It would be nice to know why this is so.

9.54 design: general
HOUSING CONGRESS

Habitation 1945-55. Part I. Edited by the Bouwcentrum, Rotterdam.

This is the first publication to come from the Fourth Congress of UIA (held at The Hague in July this year), which was devoted to the subject of housing during the last ten years. It comprises a general statement of the problems discussed (described under three headings: "programme," "design" and "production") and a group of seven national contributions which follow the same headings and give an account of the standards and methods adopted by each country. These national contributions afford the main substance of the volume. In this series are Algeria, Western Germany, Argentina, Brazil, Norway, the Netherlands and Poland; and these are to be followed by the other participating nations in due course. This documentation is, necessarily, not detailed. It comprises generally a good account of each country's "housing problem" and the methods—both financial and technical—used to meet it, and follows with typical plans, a few photographs and fairly comprehensive statistical data of about half a dozen schemes.

This is sufficient to give a good overall picture of the subject from what we might describe as "a united nations point of view." For the interest of the collection is sociological rather than technical in that it tells more about the diverse conditions of building in each country than about the exploitation of techniques which might be applicable to all. The reduction of so much data to more or less comparable terms is a great achievement, though results would have been even more illuminating if costs had been presented in some common denominator adjusted not only according to the different currencies but also to the different years.

Nevertheless, this remains a useful record of a useful initiative.

10.137 design: building types
HOSPITALS

Studies in the Functions and Design of Hospitals. Geoffrey Cumberlege, Oxford University Press. 63s.

This is a work of capital interest to architects as it records the beginnings of an investigation carried out under the direction of an architect, Richard Llewelyn Davies, into a building type which is about to figure importantly in our national building programme.

Regarded simply as a working tool in an architect's office, its chapters are of varying interest and it is important to distinguish between them.

The greatest esteem must attach to elements in the hospital which the Investigation was asked to design and to build; and to aspects on which the Investigation had to carry out special research. Less interesting (though valuable, none the less) are the Investigation's views on elements which they were not asked to build or on aspects of hospital design where no field research was carried out and where they could only correlate our general building knowledge.

To date the Investigation has designed four buildings: the diagnostic centre at Corby, ward blocks at Greenock and Belfast and an operating theatre suite at Belfast.

THE WARD

The study on the hospital ward will be already familiar to JOURNAL readers (see AJ November 15, 1951). Main interest lies in planning, for here is a case where close architectural appraisal has led to important modifications of the life which goes on in the building. The traditional English hospital ward is run on the basis of "job-assignment." Work in the ward is done by a number of trained and student nurses who each do a certain job and work from patient to patient. Objections to this system are chiefly on human grounds: namely that the patient does not get a sufficiently personal attention, that the sister carries too much responsibility and the ward nurses too little; but it was also shown by the Investigation that the concept of the nurses "round" of the ward was uneconomical in movement as so many journeys had to be made to the kitchen and utility rooms. The concept proposed by the Investigation was that of "patient-" instead of "job-assignment," with nurses working in teams. The ward at Greenock proposed a nursing unit of 8 beds, that at Belfast one of 10 beds—an arrangement made possible by the discovery that considerations of natural lighting allowed beds to be three deep from the wall. Another innovation in nursing which affects planning is that of early ambulation: it was found that 70-90 per cent. of patients could go by themselves to the lavatory if this was near and that 40-55 per cent. could sit part of the day in a "day-space."

THE OUTPATIENT SERVICE

Studies on the outpatient service were mostly of the social survey type and were aimed at cutting down the long periods of waiting. Perhaps the most interesting planning point which emerged was that doctors do not save time by having two examination rooms. The diagnostic centre at Corby was not an outpatients' department in the full sense, though it enabled the Investigation to make planning proposals for the sequence "waiting-consultation-examination," which is common to all outpatients' services.

THEATRE SUITE

The main point at issue in research into the operating theatre was whether aseptic conditions were to be obtained by strictly architectural means, in the manner adopted by Jean Walter in his ideal plan (1937) in which a series of barriers make it impossible for

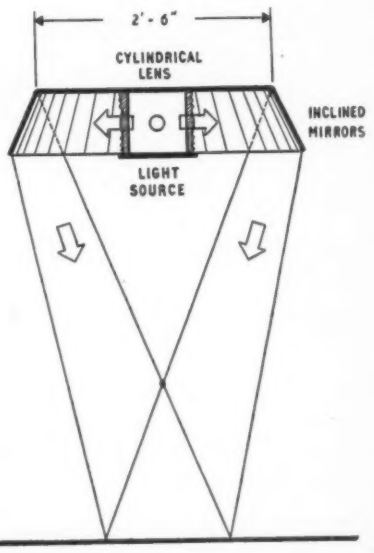
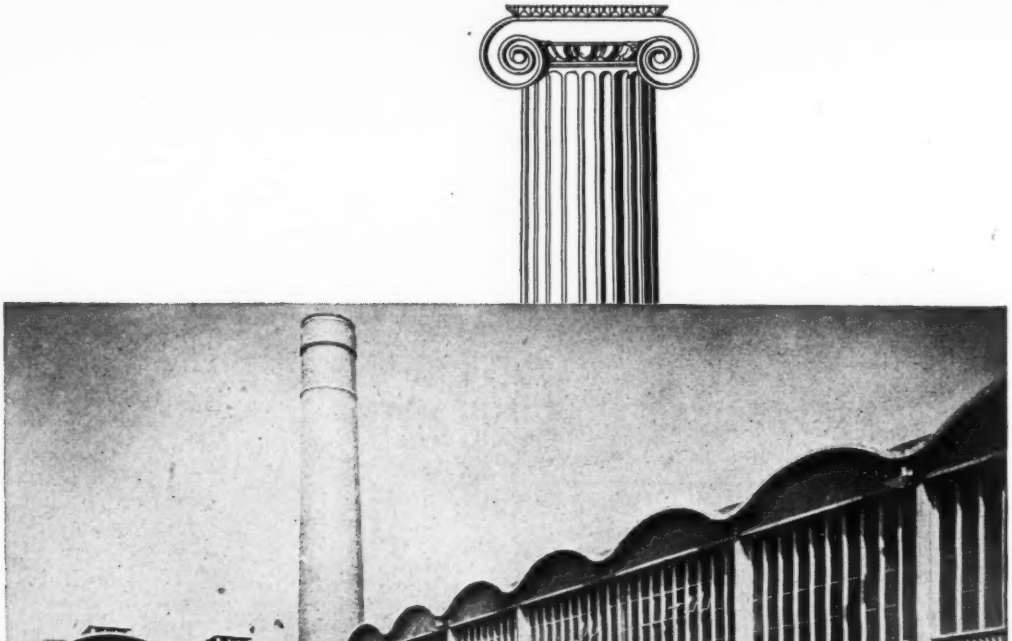


Fig. 2. Diagram showing "scialytique" principle.



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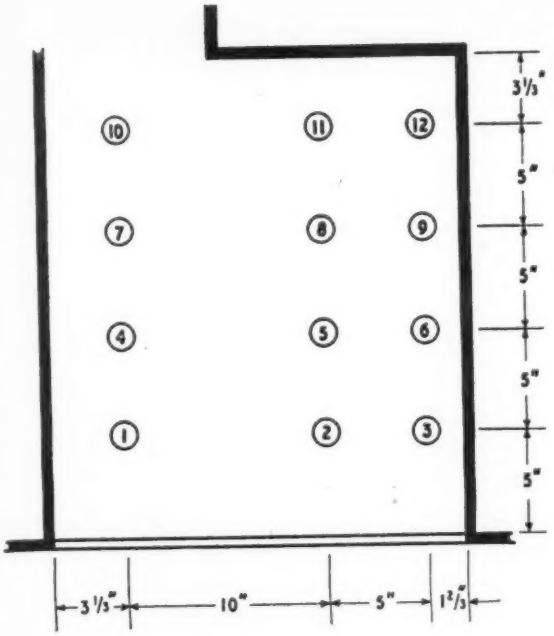
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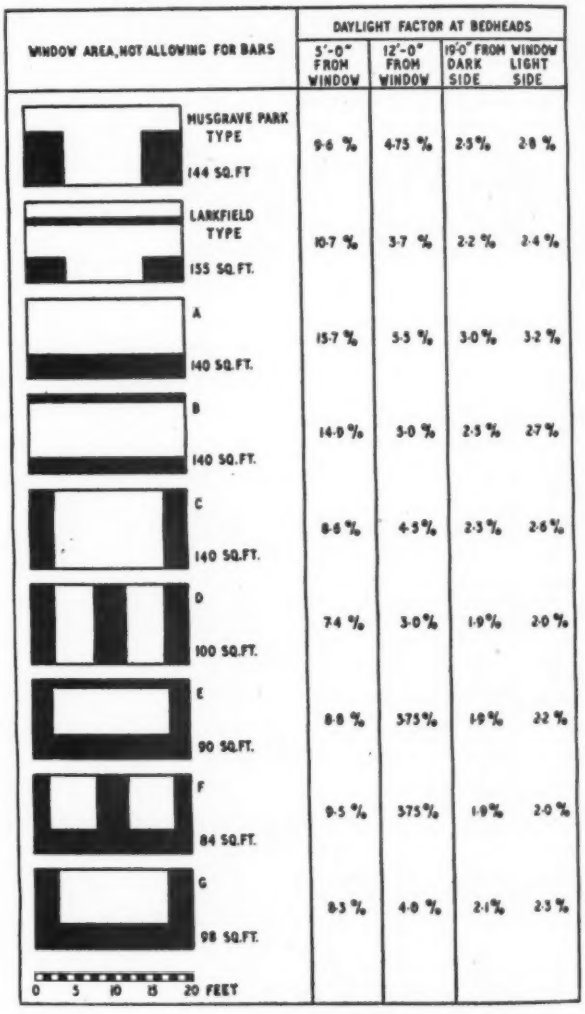


Fig. 3. Above, plan of ward model showing position of photo cells. Fig. 4, right, daylight factors recorded on model for different window types.

"clean" and "dirty" people and things to come into contact; or whether to employ a freer plan in which more was left to the discipline of doctors and nurses. The investigation found that the operating theatre was not susceptible to a rigid plan of the kind proposed by Walter, and that the advantages claimed for it on the score of better aseptic conditions were unproved. A second aspect given careful attention was that of artificial lighting. This must attain up to 2,000 lumens per sq. ft. at height 4 ft. above the floor and yet not give too much heat below, must be of a colour which allows exact distinction to be made in deep flesh cavities and must be adjustable to strike at a wide range of angles. Traditionally the problem has been met by the "scialytique" principle, by using a powerful light source which is reflected downwards by a ring of inclined mirrors: after considering the alternative of separate projectors the Investigation decided that the scialytique was adequate and the best that funds available allow.

GENERAL CONSIDERATION

If we exclude the last chapter which describes social surveys made to determine how many patients a hospital group will have to serve and what will be the incidence of their diseases, the remaining chapters are devoted to general considerations which apply to the hospital as a whole: there is a chapter on physical environment within the hospital, another on fire protection and a third on "some general considerations affecting design." These chapters, too, are most valuable insofar as they relate to one or other of the experimental buildings. The ward blocks, for instance, occasioned some useful studies on natural lighting, resulting in the design of the baffle for the Greenock wards; and on natural ventilation which established that it was sufficient to have opening lights on one side of a ward only. The need for a "rapid blow through" after bed making which required ten times the ordinary air-change suggested that mechanical ventilation would be uneconomical in wards, for this "blow through" which can be given very well by opening the windows would call for powerful equipment if supplied mechanically. Treatment rooms, operating theatres and w.c.'s however call for mechanical systems. Much attention was given to the use of colour in hospitals, to artificial lighting and to sound control, though no experiments were made which add to our scientific knowledge of these subjects. By the same token the chapter on fire protection which was drafted by a special panel of experts, set out to do no more than apply our existing knowledge of fire protection and to provide a code governing such matters as ward size, the allocation of storage space and the regulation of swing doors in fire breaks.

To sum up, this book is a "must" for all hospital architects, even though the greater part of the subject is perforce still untackled.

22.77 sound insulation and acoustics
NOISE AT WORK

Symposium on Noise at Work.—Three papers by E. D. Dalziel Dickson, T. S. Littler and D. E. Broadbent. *Royal Society for the Promotion of Health Journal.* (August, 1955.)

The first paper gives some medical evidence on the effect of noise on hearing. The second paper is a useful broad summary of the physical aspects of the production, reduction and suppression of noise. In the last paper, D. E. Broadbent examines the evidence so far assembled on the real importance of noise and its effect on human behaviour.

Most of the experimental work showing the harmful effects of noise on the health and output of workers is invalid when examined from a strict psychological viewpoint. At the same time, it would be a rash man who declared that he would not go to bed until it had been proved strictly necessary, merely because the nature of sleep and the results of being kept awake are still very puzzling to science. Although effort and money spent on noise reduction may result only in increased comfort, the fact that comfort usually loses any battle with economics provides a strong argument in favour of noise control to any architect who choses to adopt a humanist attitude.

22.78 sound insulation and acoustics
NOISE OF CENTRIFUGAL FANS

Noise of Centrifugal Fans. L. L. Beranek, G. W. Kamperman, and C. H. Allen. (Journal of the Acoustical Society of America. March, 1955.)

This reports valuable work on the prediction of noise levels of normal centrifugal ventilating fans. A formula showing the connection between noise level and horsepower rating of the fan is given, and an analysis of the sound spectrum into octave bands. The measurements made on 14 fans in actual installations did not depart from the theoretical predictions by more than 4 db.

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Buildings Illustrated

Factory and offices for Silentbloc Ltd., at Manor Royal, Crawley, Sussex. (Pages 459-468.) Architects, J. M. Austin-Smith & Partner, A./A.R.I.B.A.; Assistant architects, L. Dirassar, C. Palmer, A. Pascual, R. Haydon. Quantity surveyors, Young & Brown. General Contractors, F. G. Minter Ltd. Structural engineering consultant, F. J. Samuely. Sub-Contractors: concrete blocks, Leca (World) Ltd.; precast and prestressed concrete, David Chaston Ltd.; bricks, J. Hunter, R. Passmore; structural steel, Concrete and Structural Products Ltd.; erection, Carter Horsely (Engineers) Ltd.; floor and wall tiles, Carter & Co. (London) Ltd.; asbestos roofing, W. Banks & Co. Ltd.; partitions, Constructors Ltd.; patent glazing, Henry Hope & Sons Ltd.; wood block flooring, Hollis Bros. Ltd.; patent flooring, Prodorite Ltd., Empire Stone Co. Ltd.; waterproofing material, Ruberoid Ltd.; terrazzo floors, stairs, w.c. partitions, Malacarp Terrazzo Co. Ltd.; p.v.c. floor tiles, Marbolith Flooring Co. Ltd.; central heating, Norris Warming Co. Ltd.; kitchen ventilation, kitchen gas fixtures, Benham & Sons Ltd.; gas fitting, S.E. Gas Board; boilers, Ideal Boilers & Radiators Ltd.; electric wiring, Berkeley Electrical Engineering Co.; electric light fixtures, Falk, Stadelmann & Co. Ltd.; door furniture and metalwork, G. & S. Allgood; casements, The Crittall Manufacturing Co. Ltd.; telephones, G.P.O., Hadley Sound Equipment Ltd.; folding gates, Dennison Kett & Co. Ltd., Bolton Gate Co.; automatic sump pump, James Beresford & Sons Ltd.; sanitary fittings, Dent & Hellyer Ltd.; anti-dermatitis hand cleanser, Ibex Petroleum Products Ltd.; sectional steel water tank, Braithwaite & Co. Engineers Ltd.; fire fighting equipment, L. & G. Fire Appliance Co. Ltd.; metal bicycle stands, Alfred A. Odoni & Co. Ltd.; lightning conductor, W. J. Furse & Co. Ltd.; fire proof door, Mather & Platt Ltd.; sunblinds, Danaura Ltd.; incinerator, Southalls (Birmingham) Ltd.; plaster, Jonathon James; furniture, Hille of London Ltd.; shrubs and trees, J. Cheal & Sons; cloakroom fittings, G. A. Horney & Co. (London) Ltd.; clocks, Hadley Sound Equipment Ltd.; water supply, Cuckfield U.D.C.; paint, Leyland Paint & Varnish Co. Ltd.

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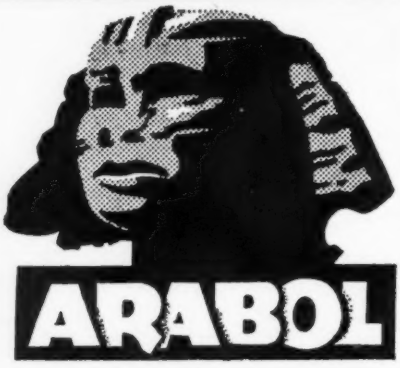
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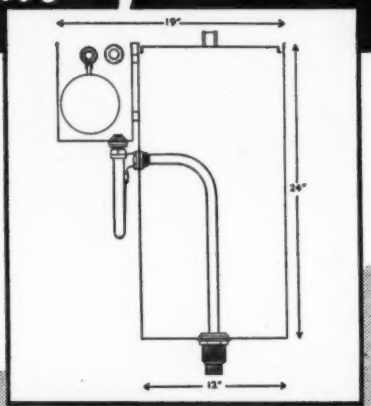
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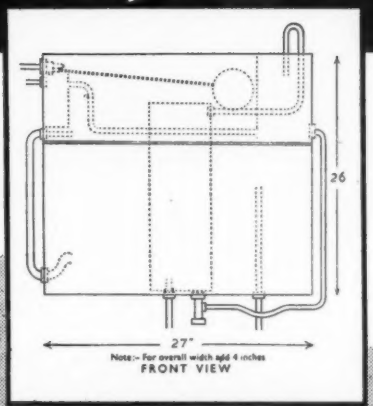
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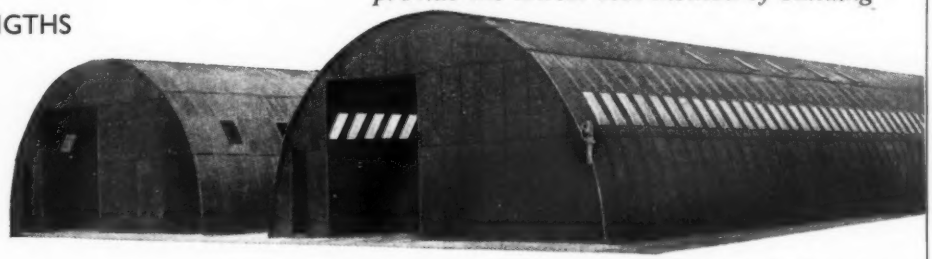
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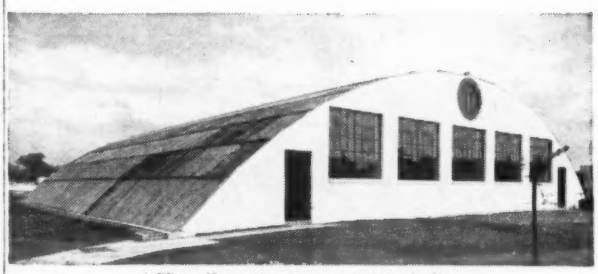
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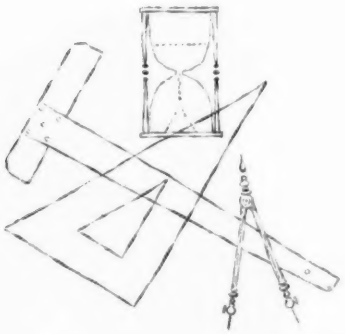
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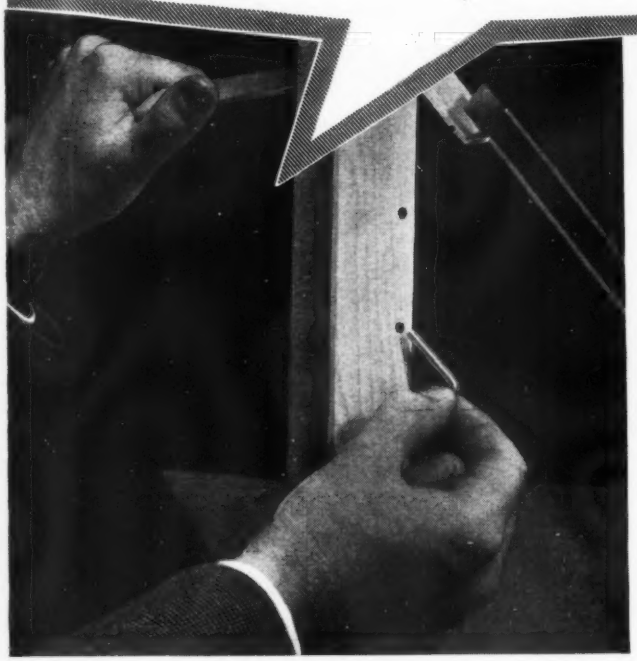
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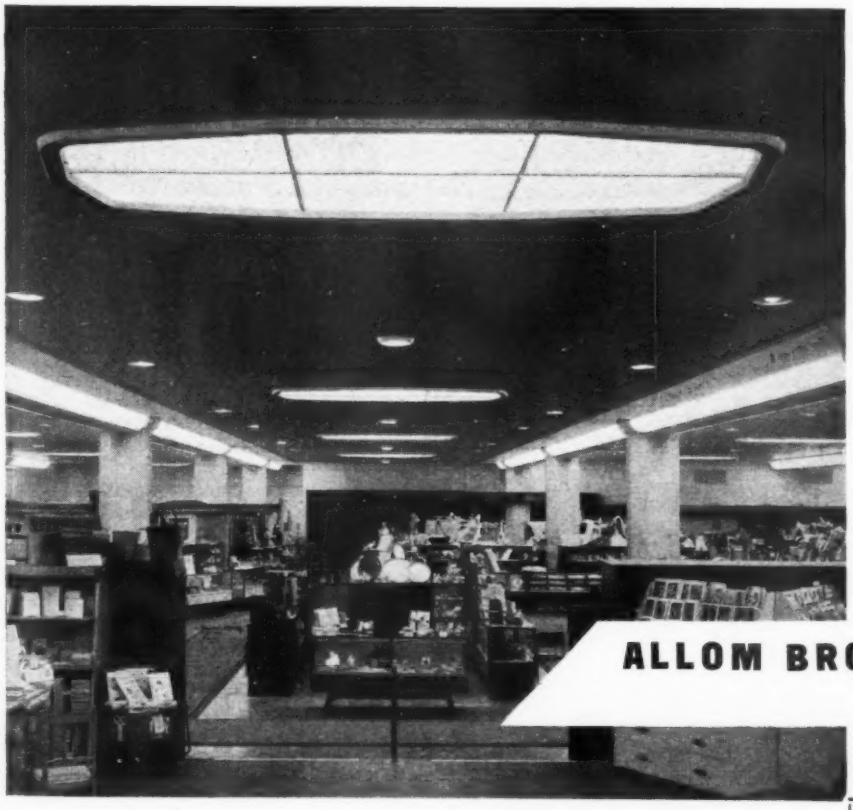
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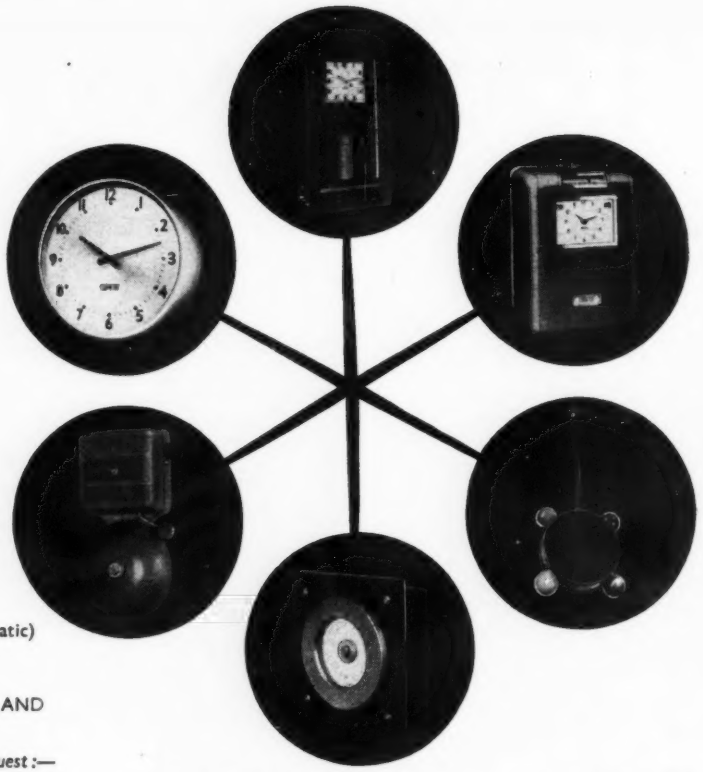
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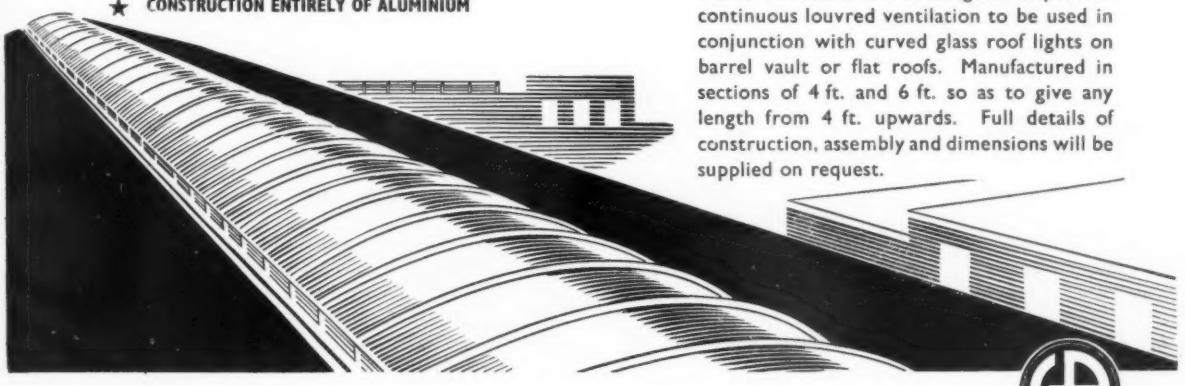
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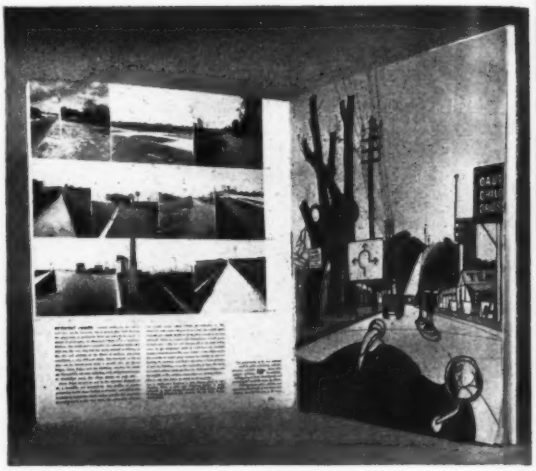
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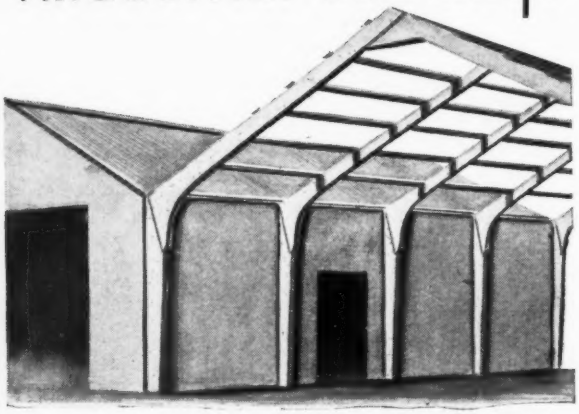
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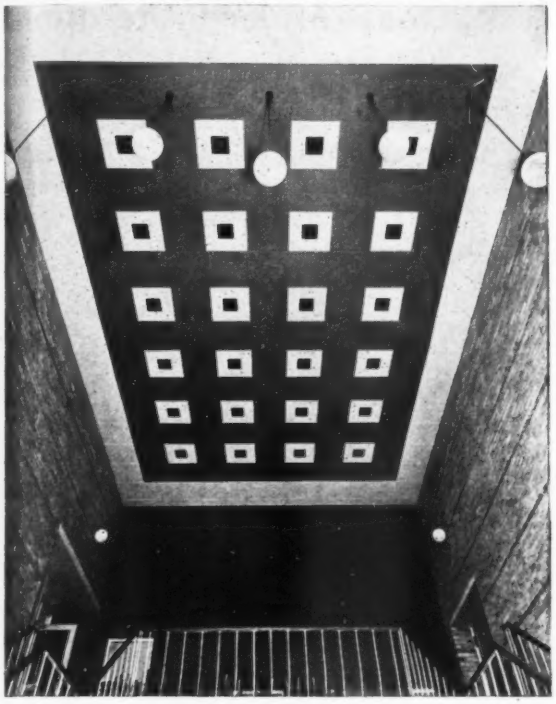
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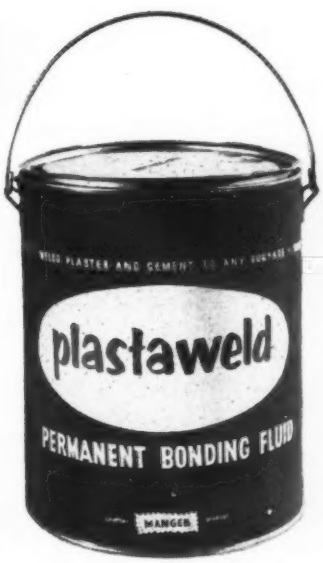
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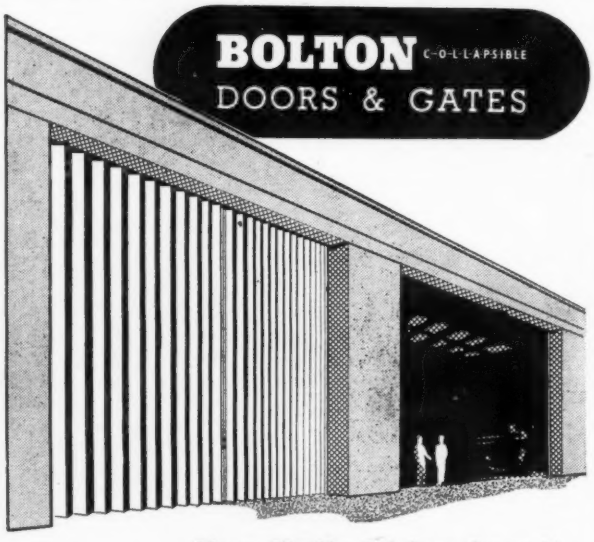
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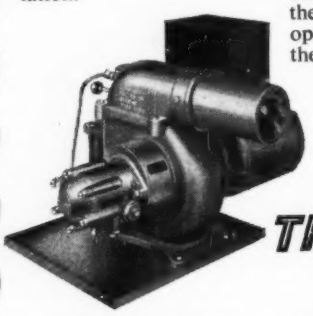
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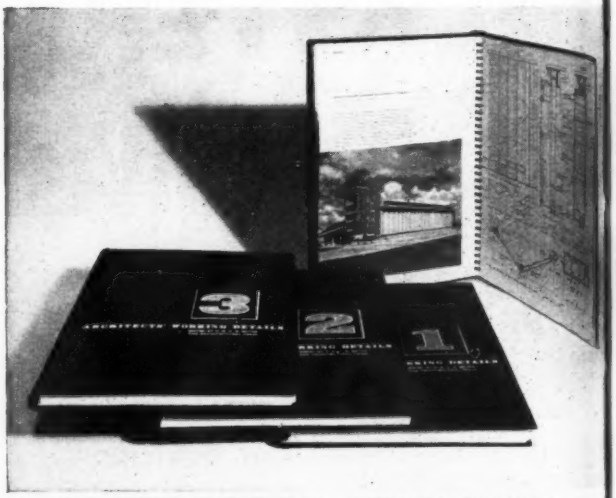


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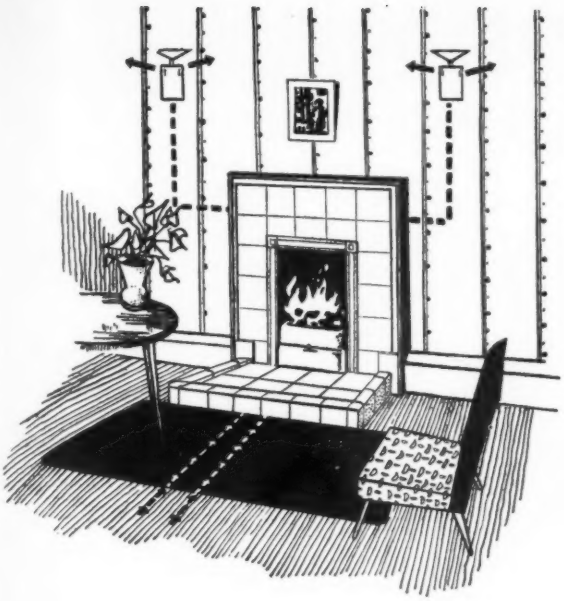
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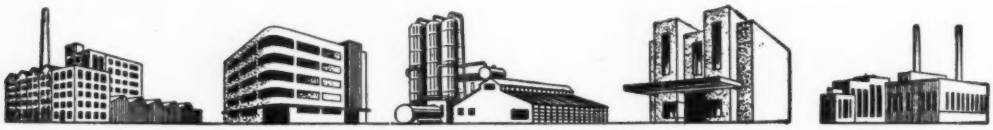
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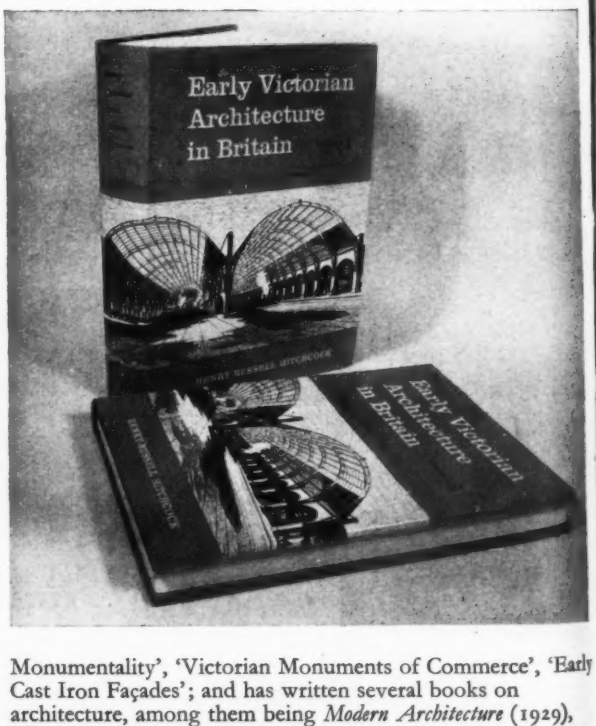
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(*b*) TWO ASSISTANT ARCHITECTS, A.P.T. Grade III (£600—£725).

(*c*) ASSISTANT ARCHITECT, A.P.T. Grade II (£560—£640).

(*d*) ASSISTANT ARCHITECTS, A.P.T. Grade I (£500—£580).

(*e*) SPECIFICATION WRITER, A.P.T. Grade III (£600—£725).

(*f*) ASSISTANT QUANTITY SURVEYOR, Special Grade (£650—£775).

Further details and application forms may be obtained from me. Completed application forms are to be received by me not later than 15th October, 1955.

W. E. BUFTON,
Clerk of the County Council.

County Offices, Ruthin. 2960

NEWCASTLE REGIONAL HOSPITAL BOARD.
SPECIAL AREA COMMITTEE FOR CUMBERLAND AND NORTH WESTMORLAND.

Applications are invited for the following permanent (superannuable) appointments in the Carlisle Area-office of the Regional Architect's Department in connection with the development of the Hospital Service in Cumberland and North Westmorland.

(*a*) ASSISTANT ARCHITECT, Grade £640 × £25 (4) × £30 (4) × £35 (2) to £930 per annum.

(*b*) ARCHITECTURAL ASSISTANT, Grade £480 × £20 (7) × £25(2) to £670 per annum.

Commencing salary will depend on the applicant's age and amount of practical experience.

Applicants for post (*a*) should be Registered Architects, and applicants for post (*b*) should have passed the Intermediate Examination of the Royal Institute of British Architects and be studying for the Final Examination.

Applications stating age, qualifications, past and present appointments, present salary and details of experience and training, together with the names of three referees (of whom at least two should be architects) should be forwarded to the Clerk of the Special Area Committee, 72, Warwick Road, Carlisle, wthin 14 days of the appearance of this advertisement.

W. J. BALL,
Clerk of the Special Area Committee.

72, Warwick Road,
Carlisle. 2997

CITY OF BIRMINGHAM PUBLIC WORKS DEPARTMENT.

Applications are invited for the following posts in the Redevelopment Section :—

(*a*) PLANNING ASSISTANT. Salary Grade A.P.T., II (£560—£640 per annum).

(*b*) PLANNING ASSISTANT. Salary Grade A.P.T. I (£500—£580 per annum).

(*c*) DRAUGHTSMAN. Salary Grade A.P.T., I (£500—£580 per annum), qualified, or Miscellaneous Grade IV (£485—£565 per annum), unqualified.

Commencing salary in accordance with qualifications and experience.

Applicants for posts (*a*) and (*b*) should have passed the Intermediate Examination of the Town Planning Institute or hold a Higher National Certificate.

Applicants for post (*c*) should hold the Ordinary National Certificate or, if not qualified, should have had suitable practical experience. Surveying experience is desirable, and a high standard of draughtsmanship is essential.

The appointments are permanent, superannuable, subject to a medical examination, and terminable by one month's notice on either side.

Applications, endorsed with the heading of the post applied for, stating qualifications, age and experience together with the names of two persons to whom reference may be made, should reach the undersigned not later than 15th October, 1955.

Canvassing disqualifies.

HERBERT J. MANZONI,
City Engineer and Surveyor.

Civic Centre, Birmingham, 1. 3079

TUTBURY RURAL DISTRICT COUNCIL.
APPOINTMENT OF CLERK OF WORKS.

Applications are invited for the appointment of Clerk of Works in connection with the Council's housing schemes, including the construction of estate streets and sewers, in various parishes in the Rural District.

The salary will be according to A.P.T., Grade II, commencing at £560 per annum and rising to £640 per annum by annual increments of £20, subject to satisfactory service.

Applicants should possess a car, and the Council will pay the appropriate travelling allowance on the national scale up to the figure for a 8 h.p. car. If a house is required by the successful applicant one will be made available as soon as practicable.

The appointment will be subject to the Local Government Superannuation Acts, and will be terminable by one month's notice on either side.

Applications, stating age and full details of experience and qualifications, together with copies of two recent testimonials should be sent to the undersigned so as to be received by first post on 11th October.

R. E. FURNER,
Clerk of the Council.

"Kingsley," 44, Rolleston Road,
Burton-on-Trent, Staffs.
29th September, 1955. 3081

BOROUGH OF REDCAR.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.
AMENDED ADVERTISEMENT.

Applications are invited for the above established post in the department of the Borough Engineer, at a commencing salary in accordance with grade A.P.T. II (£560—£640) but with promotion to Special Grade (£650—£775) on obtaining Final Professional Qualification.

Housing accommodation will be provided, if required.

Candidates should have had good general experience and have passed the R.I.B.A. Intermediate examination.

Application Forms may be obtained from the undersigned, to whom they must be returned with the names of two referees and suitably endorsed, not later than 20th October, 1955.

HUGH CALDWELL,
Town Clerk.

Municipal Buildings,
Redcar. 3012

COUNTY BOROUGH OF WALSALL.
PUBLIC WORKS DEPT.

Applications are invited for the following posts :—

(1) ASSISTANT ARCHITECT, Grade A.P.T., V, at a commencing salary of £750, rising by annual increments of £30 to a maximum of £900.

(2) ASSISTANT ARCHITECT, Grade A.P.T., IV at a commencing salary of £675, rising by annual increments of £30 to a maximum of £825.

Applicants must be Members of the Royal Institute of British Architects.

The posts are superannuated, and the persons appointed will be required to pass a medical examination.

For post No. 1 Housing Accommodation can be made available if necessary.

Applications, giving the names of two persons to whom reference can be made, and stating age, present position, salary and technical qualifications, together with details of experience, should be submitted to the undersigned not later than Monday, 17th October, 1955.

M. E. HABERSHON,
Borough Engineer and Surveyor.

Council House, Walsall.
23rd September, 1955. 3080

COUNTY BOROUGH OF DERBY.
BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the undermentioned appointments :—

ARCHITECTURAL STAFF:

A.P.T., Grade V (£750—£900 per annum).
A.P.T., Grade IV (£675—£825 per annum).
A.P.T., Grade III (£600—£725 per annum).
A.P.T., Grade II (£560—£640 per annum).
A.P.T., Grade I (£500—£580 per annum).
General Division, £275 at 20, rising to £475.

QUANTITY SURVEYING STAFF:

A.P.T., Grade V (£750—£900 per annum).
A.P.T., Grade III (£600—£725 per annum).
A.P.T., Grade II (£560—£640 per annum).
General Division, £275 at 20, rising to £475.

Starting grade will be appropriate to professional experience and qualifications.

Permanent superannuable appointments, subject to one month's notice and to medical examination. National Conditions of Service.

Applicants must state for which post they are applying.

Further particulars and application forms obtainable from and to be returned to The Borough Architect, The Council House, Corporation Street, Derby, not later than Monday, 24th October, 1955.

G. H. EMLYN JONES,
Town Clerk.

28th September, 1955. 3061

BOROUGH OF RAWTENSTALL.
APPOINTMENT OF SENIOR ARCHITECTURAL ASSISTANT.

Applications are invited from suitably qualified persons for the above-mentioned appointment at the maximum of the National Scale of Salaries for Special Classes of Officers (£775 per annum).

The appointment is on the Council's permanent staff, and is subject to the Local Government Superannuation Acts, 1937-53, the passing of a medical examination, and to termination by one month's notice on either side.

Housing accommodation will be provided for the successful candidate, if married, and reasonable removal expenses paid.

Applications, stating age, qualifications, present and previous appointments, and giving full details of experience, together with names and addresses of two referees should be delivered to the undersigned not later than Monday, the 17th October, 1955.

(Signed) J. W. BLOMELEY,
Town Clerk.

Town Hall, Rawtenstall, Rossendale, Lancs.
27th September, 1955. 3066

BUCKS COUNTY COUNCIL.

Applications are invited for the appointment of an ASSISTANT QUANTITY SURVEYOR on the staff of the County Architect. Salary in accordance with A.P.T. Grade IV (£675—£825 p.a.).

The appointment is superannuable and subject to medical examination.

A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applications, on forms to be obtained from F. B. Pooley, County Architect, County Offices, Aylesbury, must be returned by 15th October, 1955. 3034

CITY OF CHESTER—DEPARTMENT OF CITY ENGINEER.

Applications are invited for SENIOR ARCHITECTURAL ASSISTANT. Salary A.P.T., Grade IV, namely £675—825 per annum. Candidates should have had good training and experience and should be Associates of the R.I.B.A. or hold a University degree in Architecture. Consideration will be given to the provision of housing accommodation to the successful applicant if married. Applications with two testimonials should reach City Engineer, 43, Northgate Street, Chester, by Monday, 17th October, 1955. Canvassing, directly or indirectly, will disqualify, and relationship to any member or officer of the Council must be disclosed. 3060

HEREFORDSHIRE COUNTY PLANNING DEPARTMENT.

APPOINTMENT OF PLANNING ASSISTANT.

Applications are invited from persons who are qualified by examination and experience to undertake development plan work along with survey and research for appointment in the Special Grade, £660×£25—£775, to which the National Scheme of Conditions of Service apply.

Particulars of qualifications and experience should be included in applications, which should be sent to me on or before the 15th October, 1955, along with the names of three persons to whom reference may be made.

A. R. DUNCAN,
County Planning Officer.

County Planning Department,
Chandos House, St. Owen Street, Hereford. 3063

NORTHAMPTON RURAL DISTRICT COUNCIL.

SURVEYOR'S AND ARCHITECT'S DEPARTMENT.

APPOINTMENT OF QUANTITY SURVEYOR ASSISTANT.

Applications are invited for the above appointment (salary £560×£20 to £640 per annum).

Applicants should have passed the Final Examination of the R.I.C.S. (Quantity Section) or similar, and have had considerable experience in the preparation of Bills, measurement of site works, and preparation of interim statements and final accounts in connection with Housing Schemes.

The appointment will be terminable by one month's notice, in writing, on either side.

Applications, stating age, whether married or single, qualifications, full particulars of experience, together with copies of two recent testimonials, are to reach the undersigned by Saturday, 15th October, 1955.

Applicants must disclose whether they are related to any member or senior officer of the Council. Canvassing, either directly or indirectly, will disqualify.

CLIFFORD E. JONES,
Clerk of the Council.

Council Offices, 1, Cheyne Walk, Northampton.
27th September, 1955. 3071

CITY OF PETERBOROUGH.

ARCHITECTURAL ASSISTANT, GRADE II, A.P. & T.

Applications are invited for the above appointment in the City Engineer's Department. Applicants should be of Intermediate R.I.B.A. standard, possess a sound knowledge of building construction, and be capable of preparing working and detail drawings under supervision.

Applications, stating age, experience, details of qualifications, together with copies of three recent testimonials, should be sent in envelopes endorsed "Architectural Assistant," to Mr. L. H. Robjohn, M.B.E., A.M.I.C.E., City Engineer and Surveyor, Town Hall Peterborough, to reach him not later than 22nd October, 1955.

Housing will be provided, if necessary.

Canvassing, directly or indirectly, will disqualify.

Candidates must disclose whether they are related to any member or senior officer of the Council.

C. PETER CLARKE,
Town Clerk.

Town Hall, Peterborough.
September, 1955. 3070

ARCHITECTS, BUILDING BRANCH, ARCHITECTURAL SECTION, PUBLIC WORKS DEPARTMENT, KENYA.

Required to prepare sketch designs and working drawings for Government buildings, including Schools, Police Stations, Government Offices, Housing, Hospitals, Prisons, Agricultural Buildings, etc. To be in charge of a section dealing with one or more of such group of buildings.

Appointment will be on contract for 24 to 45 months in the salary range £1,032 to £1,620 per annum, plus 10 per cent. cost-of-living allowance. Gratuity at the rate of 13½ per cent. of salary payable on satisfactory completion of contract.

Free passages on appointment and on leave for officer, his wife, and children up to a maximum cost of three adult passages. Leave at rate of 4-5 days for each month of resident service. Successful candidate to proceed to Kenya by air.

Candidates, not to exceed 45 years of age, must be A.R.I.B.A., with at least 6 years' post qualification experience in an Architect's office. Administrative and practical supervisory experience will be an advantage.

Apply in writing to the Director of Recruitment, Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience. Mention the reference No. BCD 112/7/011. 3046

CITY OF OXFORD EDUCATION COMMITTEE. COLLEGE OF TECHNOLOGY, ART AND COMMERCE.

SCHOOL OF ARCHITECTURE AND BUILDING.

Applications are invited for the post of ASSISTANT, Grade A, to teach GENERAL BUILDING SUBJECTS and the ancillary subjects of craft courses. Ability to teach Building Science an advantage.

Applicants must hold a qualification such as the H.N.C. or Diploma in Building or a Full Technological Certificate in a building craft.

Salary in accordance with scale for Assistants, Grade A, under the Burnham (Further Education) Report, 1954, *i.e.*, £450—£725 per annum.

Forms of application and further particulars may be obtained from the Chief Education Officer, 77-79, George Street, Oxford (stamped addressed foolscap envelope), and completed forms must be returned within 14 days of the appearance of this advertisement to the Principal, College of Technology, Art and Commerce, Cowley Road, Oxford. 3033

CITY OF BIRMINGHAM.

CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(1) *HOUSING DESIGN SECTION.* (Responsible for a large housing programme for suburban and central redevelopment areas, including multi-storey flats, garages and large shopping centres.):

(*a*) SENIOR ASSISTANT ARCHITECT (Group Leader), Grade A.P.T., VI (£825—£1,000 per annum).

(This Group Leader will be primarily responsible for the basic designs of Redevelopment areas and the possession of a Town Planning qualification will be an advantage.)

(*b*) ASSISTANT ARCHITECT, Grade A.P.T., IV (£675—£825 per annum).

(*c*) ARCHITECTURAL ASSISTANTS, Special Classes Ad Hoc Scale (£650—£775 per annum).

(*d*) ARCHITECTURAL ASSISTANTS, Special Classes, Grade A.P.T., II (£560—£640 per annum).

(*e*) ARCHITECTURAL ASSISTANTS, Special Classes, Grade A.P.T., I (£500—£580 per annum).

(2) *GENERAL ARCHITECTURAL SECTION.* (Responsible for an extensive programme, including design and erection of large public buildings such as police and fire stations, office blocks and other civic buildings.):

(*a*) ASSISTANT ARCHITECT, Grade A.P.T., V (£750—£900 per annum).

(*b*) ARCHITECTURAL ASSISTANTS, Special Classes Ad Hoc Scale (£650—£775 per annum).

(*c*) ARCHITECTURAL ASSISTANT, Special Classes, Grade A.P.T. II (£560—£640 per annum).

(3) *SCHOOLS SECTION.* (Responsible for large School Building Programme involving the planning design and erection of all types of School Buildings in both traditional and new traditional construction.):

(*a*) ASSISTANT ARCHITECT, Grade A.P.T., V (£750—£900 per annum).

(*b*) ASSISTANT ARCHITECTS, Grade A.P.T., IV (£675—£825 per annum).

(*c*) ARCHITECTURAL ASSISTANTS, Special Classes Ad Hoc Scale (£650—£775 per annum).

(*d*) ARCHITECTURAL ASSISTANTS, Special Classes, Grade A.P.T., II (£560—£640 per annum).

Applicants for posts 1(*a*) and (*b*), 2(*a*) and 3(*a*) and (*b*) must be Associate Members of the R.I.B.A. or hold an equivalent qualification, and for posts 1(*c*), (*d*) and (*e*), 2(*b*) and (*c*), and 3(*c*) and (*d*) must be suitably qualified in accordance with the regulations of the National Joint Council for Architectural Assistants.

The commencing salary in all grades will be according to capabilities and experience.

The posts are permanent, superannuable, subject to a medical examination and to one month's notice on either side.

Applications, endorsed with the heading of the post, stating age, present position and salary, qualifications and experience, together with the names of two persons to whom reference can be made, should reach the undersigned by not later than 29th October, 1955.

Canvassing disqualifies.

A. G. SHEPPARD FIDLER,
City Architect.

Civic Centre, Birmingham, 1. 3095

SWADLINCOTE URBAN DISTRICT COUNCIL.

APPOINTMENT OF ARCHITECTURAL ASSISTANT (TEMPORARY).

Applications are invited for the position of temporary Architectural Assistant in the office of the Engineer and Surveyor at a salary in accordance with A.P.T., Grade III.

Preference will be given to applicants holding the Intermediate Examination of the R.I.B.A. or equivalent qualification.

Applications, stating age, training, experience, past and present appointments, together with the names and addresses of two referees, should be delivered to the undersigned not later than the 14th October, 1955.

HOUSING ACCOMMODATION WILL BE CONSIDERED, IF REQUIRED.

J. SANDIFORD,
Clerk of the Council.

Council Offices, Swadlincote.
27th September, 1955. 3054

WARWICKSHIRE COUNTY COUNCIL.

ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(*a*) SENIOR ASSISTANT ARCHITECTS. Grade A.P.T., V (£750—£900).

(*b*) ASSISTANT ARCHITECTS. (Grade A.P.T., IV (£675—£825).

(*c*) ARCHITECTURAL ASSISTANTS. Grade A.P.T., II (£560—£640).

The commencing salary can be within the grades according to ability and experience. All appointments are subject to the provisions of the Local Government Superannuation Acts, 1937-53. Applicants for (*a*) and (*b*) should be Registered Architects.

Applications to be on forms which can be obtained from G. R. Barnsley, F.R.I.B.A., County Architect, Shire Hall, Warwick.

L. EDGAR STEPHENS,
Clerk of the Council.

Shire Hall, Warwick. 3069

LINDSEY COUNTY COUNCIL.

PLANNING ASSISTANTS.

A.P.T., II (£560—£640). Must have passed Inter. T.P.I., and had experience at all stages in preparation of Town Maps.

A.P.T., I (£500—£580). Must have been trained in planning, architect's or surveyor's office, and be capable in field surveys and draughtsmanship.

Superannuation and N.J.C. service conditions. Apply with particulars of age, training, qualifications and experience, and naming two referees, to R. L. Stirling, County Planning Officer, The Castle, Lincoln, before 21st October, 1955. Canvassing will disqualify, and relationship to any member or senior officer of the Council to be disclosed in application. 3064

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD.

Applications are invited for the appointment of the following permanent staff of the Board's Architect, generally in accordance with Whitley Council conditions of service:—

ASSISTANT ARCHITECTS:

The commencing salary (fixed by reference to experience at full professional standards as a practising Architect and to age) will be within the scale £640×£25 (4)×£30 (4)×£35 (2) to £930, plus London allowance. Applicants must be Associate Members of the Royal Institute of British Architects, and capable of preparing working and detailed drawings and specifications, and supervising work on individual projects. Experience of Hospital planning and construction an advantage.

ASSISTANT QUANTITY SURVEYOR:

Commencing salary (fixed by reference to experience at full professional standard as a practising Quantity Surveyor and to age) will be within the scale £640×£25 (4)×£30 (4)×£35 (2) to £930, plus London allowance. Applicants must be Associate Members of the Royal Institution of Chartered Surveyors (Quantity Surveying branch), and have sound practical experience in the estimating and analysis of prices, working up and taking off quantities for small contracts, and also of checking Contractor's accounts.

ARCHITECTURAL ASSISTANTS:

The commencing salary (fixed by reference to practical experiences since passing one of the Examinations below, and to age) will be within the scale £480 (age 21 or over)×£20 (7)×£25 (2) to £670, plus London allowance. Applicants must have passed the Intermediate Examination of the Royal Institute of British Architects or an Examination recognised by the institute as equivalent, have had a good Architectural training and a general experience, and be capable of preparing working and detailed drawings.

Applications, stating age, experience, qualifications, present appointment and salary, together with names and addresses of three referees, should be sent to the Secretary (S.2), 11a, Portland Place, London, W.1, by not later than 20th October. 3044

DURHAM COUNTY COUNCIL—STAFF VACANCIES.

PLANNING ASSISTANT (Development Control). Salary £560—£640 p.a.

RESEARCH ASSISTANT. Salary £500—£580 p.a.

PLANNING ASSISTANT. Salary £500—£580 p.a.

Forms and particulars from County Planning Officer, 10, Church Street, Durham.

Closing date: 29th October, 1955.

J. K. HOPE,
Clerk of the County Council. 3072

RUTLAND COUNTY COUNCIL.

APPOINTMENT OF COUNTY ARCHITECT AND PLANNING OFFICER.

Applications are invited for the appointment of County Architect and Planning Officer, at an annual salary of £1,255, rising by annual increments of £52 10s. to £1,412 10s. per annum.

Applicants must be Members of the Town Planning Institute and of the Royal Institute of British Architects, and must be experienced in local government planning and architecture.

Applications for the appointment, giving the names of not more than three referees, must be received by me not later than 17th October, 1955. Canvassing, directly or indirectly, will be a disqualification.

A. BOND,
Clerk of the County Council.

County Offices, Oakham.
27th September, 1955. 3049

BOROUGH OF MAIDSTONE.
APPOINTMENT OF GENERAL ARCHITECTURAL DRAUGHTSMAN IN BOROUGH SURVEYOR'S DEPARTMENT.

Applications are invited for the above appointment at a salary in accordance with Grade I (£500—£580).

Candidates must have a sound knowledge of building construction, and preference will be given to those who have passed parts or the whole of the Intermediate Examination of the Royal Institute of British Architects or other approved Institution, and who have had general experience in connection with housing estate development.

The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Act, 1953, the passing of a medical examination, and one month's notice on either side. Canvassing will disqualify. Where circumstances warrant, the Council will be prepared to give consideration to the provision of housing accommodation.

Applications, on forms to be supplied, must reach the undersigned not later than the 15th October, 1955.

S. F. DIXON,
Borough Surveyor.

Borough Surveyor's Department,
Palace Avenue, Maidstone.
30th September, 1955. 3040

COUNTY BOROUGH OF CARLISLE.

Applications are invited for the following posts in the City Surveyor's Department:—

(*a*) ASSISTANT ARCHITECT, A.P.T., IV (£675×£30—£825).

Starting salary according to present salary and experience. Applicants should be A.R.I.B.A., and will be engaged on work included in Authority's Educational Building Programme.

(*b*) CHIEF QUANTITY SURVEYOR, A.P.T., Grade V (£750—£900).

Applicants should be Chartered Quantity Surveyors, and should be able to take charge of a section responsible for preparation of Estimates, Bills of Quantities, and Final Accounts for Schools, Housing and Municipal Buildings.

(*c*) ENGINEERING ASSISTANT, A.P.T., Grade IV (£675—£825).

Housing accommodation will be made available if required.

Forms from the City Surveyor, 18, Fisher Street Carlisle, returnable not later than 22nd October, 1955.

H. D. A. ROBERTSON,
Town Clerk.
3043

COUNTY BOROUGH OF DONCASTER.
PLANNING ASSISTANTS.

Applications are invited from suitably qualified persons for the above appointments, at salaries within the Special Grade (£650—£775). The successful applicants will be engaged either on the preparation of detailed schemes in connection with town centre redevelopment projects, in which case architectural training and experience would be desirable, or engaged on the administration of all aspects of Development Control.

The appointments will be subject to one month's notice on either side, the provisions of the Local Government Superannuation Act, and the successful candidate passing a medical examination.

Applicants must state whether to their knowledge they are related to any member or senior officer of the Council.

Applications, stating age, past and present appointments (with dates and salaries), qualifications and experience, together with the names of two referees, must be received by the Borough Surveyor and Planning Officer, 2, Priory Place, Doncaster, not later than Monday, 17th October, 1955.

H. R. WORMALD,
Town Clerk.

1, Priory Place, Doncaster.
27th September, 1955. 3050

CITY OF CARDIFF.
APPOINTMENT OF ARCHITECTURAL ASSISTANTS.

Applications are invited for the following appointments in the City Surveyor's Department:—

(*a*) ASSISTANT ARCHITECT (HOUSING), A.P.T., Grade VI (£825—£1,000 per annum).

(*b*) SENIOR ASSISTANT ARCHITECT (GENERAL), A.P.T., Grade VI (£825—£1,000 per annum).

Candidates should possess the minimum qualifications and experience prescribed by the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services for posts in the above-mentioned Grades.

General Conditions of Appointment may be obtained from the undersigned.

The Council will assist in providing housing accommodation for a period for the successful applicants.

Applications, accompanied by the names and addresses of three referees, and endorsed with the description of the post applied for, must be delivered to me not later than the 18th October, 1955.

S. TAPPER-JONES,
Town Clerk.

City Hall, Cardiff.
September, 1955. 3088

LANCASHIRE COUNTY COUNCIL.

THERE ARE VACANCIES FOR ASSISTANT ARCHITECTS IN THE OFFICE OF THE COUNTY ARCHITECT (G. NOEL HILL, F.R.I.B.A., M.T.P.I.), WHERE THE WORK IS DEALT WITH FROM THE PURCHASE OF THE SITE TO THE FURNISHING OF THE BUILDING AND THE ARCHITECT HAS EXPERIENCE OF REGULAR CONTACTS WITH MEMBERS OF OTHER PROFESSIONS ON THE STAFF—LAND SURVEYORS, ENGINEERS AND QUANTITY SURVEYORS.

THE FOLLOWING VARIETY OF POSTS ARE OFFERED:—

POST "A" (£750—£900). For Architects who prefer to work in a group on large school contracts.

POST "B" (£675—£825). For the Architect who prefers to work largely on his own, on a programme of minor projects, i.e., additional class-rooms, school kitchens, etc.

POST "C" (£675—£825). For Architects who want a general experience on a variety of County buildings; to work in a group and have charge of small projects.

APPOINTMENTS ABOVE THE MINIMUM OF THE GRADE MAY BE RECOMMENDED.

Application forms, obtainable from the County Architect, P.O. Box 26, County Hall, Preston, to be returned by Monday, 24th October, 1955, quoting Ref. A/AJ. 3030

THE ROYAL INFIRMARY OF EDINBURGH AND ASSOCIATED HOSPITALS.

ARCHITECT AND MASTER OF WORKS required. Applicants must be fully qualified Architects and be capable of controlling and co-ordinating the whole activities of the Works Department of this group of hospitals, comprising the Royal Infirmary of Edinburgh (1,157 beds). The Simpson Memorial Maternity Pavilion (169 beds). Convalescent House, Corstorphine (80 beds), Beechmount Hospital (46 beds), and Edinburgh Dental Hospital (83 chairs), as well as a number of outside clinics, nurses' homes, etc. Salary scale £1,050×£40 (5)×£25 (1)—£1,275 per annum on a personal basis. A house to rent will be made available if desired. Full details of the duties and responsibilities and of staff employed will be supplied on application to the undersigned, with whom applications giving full particulars and the names and addresses of three referees must be lodged not later than Friday, 28th October, 1955. Applicants who responded to previous advertisements need not re-apply.

W. F. FERGUSON,
Secretary and Treasurer.
3029

BUCKS COUNTY COUNCIL.

Applications are invited for the appointment of a BUILDING MAINTENANCE SURVEYOR on the staff of the County Architect. Salary in accordance with A.P.T., Grade III (£600—£725 p.a.).

Applicants should have a sound knowledge of all building trades; have had considerable experience in a similar capacity, preferably with a local authority, and should possess a recognised professional qualification.

The successful applicant will be required to reside and work in the Slough area.

The appointment is superannuable and subject to medical examination.

A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applications, on forms to be obtained from F. B. Pooley, County Architect, County Offices, Aylesbury, must be returned by 15th October, 1955. 3032

BUCKS COUNTY COUNCIL.

Applications are invited for the appointment of TWO ASSISTANT ARCHITECTS, Architects' Special Scale (£650—£775), in the County Architect's Department.

The appointments are superannuable and subject to medical examination.

A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applications, on forms to be obtained from F. B. Pooley, County Architect County Offices, Aylesbury, must be returned by 24th October, 1955. 3103

COUNTY BOROUGH OF DUDLEY.
ASSISTANT ARCHITECT.

Applications are invited for the above appointment. Salary £750 to £900, according to experience.

Applicants should be Associate Members of the Royal Institute of British Architects.

Applications, together with the names and addresses of two referees, to reach me by Monday, 24th October, 1955.

P. D. WADSWORTH,
Town Clerk.

The Council House, Dudley.
28th September, 1955. 3104

LONDON ELECTRICITY BOARD.
STRUCTURAL ASSISTANTS AND STRUCTURAL DRAUGHTSMEN.

Applications are invited for the above positions in the Construction Branch of the Chief Engineer's Department in Central London.

Applicants for the positions of Structural Assistants in the Civil Engineer's Section should be experienced in the design and detailing of reinforced concrete and/or steel-framed superstructures and foundations.

Applicants for the positions of Structural Draughtsmen should have a knowledge of building construction requirements and/or some experience in detailing reinforced concrete or steel structures.

The posts are graded under Schedule "D", National Joint Board agreement, as Grade V (£672 to £777), and Grade VI (£535 10s. to £661 10s.) per annum, respectively inclusive of London allowance. Commencing salaries will be dependent on qualifications and experience.

Application forms obtainable from Personnel Officer, 46/7, New Broad Street, London, E.C.2, to be returned completed by 25th October, 1955. Please enclose addressed envelope and quote Ref. V/2003/A. 3087

BOROUGH OF ERITH.
THIRD ARCHITECTURAL ASSISTANT.

Applications are invited from young, contemporary-minded ASSISTANTS for the above vacancy in the Borough Architect's Department at a salary in accordance with Grade A.P.T., II (£560×£20—£640 per annum, plus London weighting).

Applications, stating age, education and training, previous appointments and experience, together with names and addresses of two referees, should reach the Borough Engineer and Surveyor not later than the 24th October, 1955. Canvassing disqualifies.

J. A. CROMPTON,
Town Clerk.

Town Hall, Erith, Kent. 3091

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD.

SURVEYING ASSISTANT required in the Architect's Department. Salary within the scale £480 to £670, plus £20—£30 London weighting. Candidates should have passed the Intermediate Examination of the R.I.C.S. (IIIB) and be competent specification writers and able to prepare working drawings for alteration works. The work is varied and interesting, and the Board operates a scheme of financial assistance to students studying for professional examinations.

Apply, stating age, qualifications and experience, and giving names of two referees, to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by 17th October, 1955. 3027

COUNTY BOROUGH OF BLACKBURN.
APPOINTMENT OF ASSISTANT QUANTITY SURVEYOR.

Applications invited for this permanent appointment in the Borough Engineer's Department. Salary, Grade IV (£675—£825). Applicants must be experienced in preparation of Bills of Quantities Specifications, Estimates, and settlement of final accounts. Preference will be given to Professional Associates of the Royal Institution of Chartered Surveyors. Provision of housing accommodation if required will be given consideration. Applications, stating age, qualifications, experience, and past and present appointments, with names of two referees, to the Borough Engineer, Town Hall, by 12th October.

CHAS. S. ROBINSON,
Town Clerk.
3028

BOROUGH OF EDMONTON.

ARCHITECTURAL ASSISTANTS on the undermentioned grades are required in the BOROUGH ARCHITECT'S DEPARTMENT, primarily for interesting redevelopment schemes of contemporary design involving multi-storey flats and a new industrial estate. Works mainly carried out by Direct Labour. Financial assistance for studies and examinations. Alternate Saturdays free. Canteen facilities.

(*a*) A.P.T., V (£750×£30—£900).
(*b*) A.P.T., IV (£675×£30—£825).
(*c*) A.P.T., III (£600×£25—£725).
(*d*) A.P.T., II (2) (£560×£20—£640).

(All grades plus £10—£30 London weighting.)

Applications on forms from Town Clerk, Town Hall, Edmonton, must be delivered by 17th October. 3048

COUNTY BOROUGH OF NEWPORT.

Applications are invited for the following appointments:—

(*a*) ASSISTANT ARCHITECTS, Grade IV (£675—£825) and Special Grade (£650—£775).

(*b*) ARCHITECTURAL ASSISTANTS, Grades I (£500—£580) and II (£560—£640).

(*c*) ARCHITECTURAL DRAUGHTSMAN (salary £170—£475).

(*d*) ASSISTANT QUANTITY SURVEYORS, Grades V (£750—£900) and IV (£675—£825).

(*e*) BUILDING SURVEYOR, Grade IV (£675—£825).

(*f*) CLERK OF WORKS (T), Grade III (£600—£725).

Housing accommodation will be provided for (*a*), (*d*) and (*e*). Further information and forms of application obtainable from the Borough Architect, Civic Centre, Newport, Mon., to whom they should be returned not later than 24th October, 1955. 3073

URBAN DISTRICT OF EAST BARNET.
Applications are invited for the following permanent appointments:—
(*a*) ASSISTANT ARCHITECT, Grade A.P.T., III (£600—£725 per annum).
(*b*) DRAUGHTSMAN (ARCHITECTURAL), Grade A.P.T., I (£500—£580 per annum).
Salaries will be increased by London weighting of £20—£30 per annum, according to age.
Housing accommodation will be provided for the appointment of Assistant Architect, if necessary.
Conditions of Appointment and Forms of Application, returnable by 20th October, 1955, may be obtained from the Engineer and Surveyor, Town Hall, Station Road, New Barnet, Hertfordshire. 3031

THE LONDON HOSPITAL, Whitechapel, E.1, requires CHIEF ASSISTANT ARCHITECT. Salary £850—£950 per annum. Applications, stating age, experience, etc., to the House Governor. 2922

CARSHALTON URBAN DISTRICT COUNCIL. ARCHITECTURAL ASSISTANT, ENGINEER & SURVEYOR'S DEPARTMENT. Must hold Final Examination Certificate of the R.I.B.A. and be Registered Architect. Must also be competent in design and construction and have had a full and varied practical experience, preferably in the architectural work of a local authority.
Carshalton is a large urban district of 62,000 population with a development programme which includes multi-storey flats and other building works.
Salary will be at the maximum of the APT. Special Scale (£775 per annum) plus London "Weighting."
The Council cannot provide housing accommodation.
Applications on forms obtainable from the undersigned must be returned with names of three referees not later than the 18th October, 1955. Canvassing will disqualify.
C. H. DURRANT,
Clerk of the Council.
District Council Offices,
The Grove,
Carshalton, Surrey. 3111

EAST SUFFOLK COUNTY COUNCIL.
Applications are invited for the appointment of PLANNING ASSISTANT, A.P.T. Grade II (£560—£640), with motor car allowance. Candidates will be required to hold the Intermediate Examination of the Town Planning Institute, and have a good knowledge of Development Plans and/or Development Control procedure.
Applications to include names of two referees to County Planning Officer, County Hall, Ipswich, immediately. 3105

COUNTY BOROUGH OF GREAT YARMOUTH.
APPOINTMENT OF SENIOR ASSISTANT ARCHITECT.
Applications are invited for the above appointment in the Borough Engineer's Department, at a salary within A.P.T., Grade V (£750—£900). Applicants must be A.R.I.B.A., with wide experience in the design and administration of large contracts for specialised buildings carried out by a local authority. Preference will be given to applicants having experience in new library buildings.
HOUSING ACCOMMODATION WILL BE MADE AVAILABLE.
Applications, giving names and addresses of two referees, and stating age, professional training, qualifications experience and present and previous appointments with salaries, must be sent to me in an envelope endorsed "Senior Assistant Architect" to arrive not later than the 10th October, 1955.
FARRA CONWAY,
Town Clerk.
Town Hall, Great Yarmouth.
22nd September, 1955. 3108

Architectural Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

THE post advertised under Box 2519 is now filled. 3110

ARCHITECTURAL ASSISTANT, of R.I.B.A. Intermediate standard or thereabouts, required urgently. Apply, stating age, experience, and salary required, to Moir & Bateman. F./A.R.I.B.A., Prudential Buildings, Rochdale. 2917

SENIOR ARCHITECT required in busy office in Birmingham operating 5-day week. Salary offered £900—£1,000 per annum. Varied work offering scope for responsibility on design and administration of Hotels, Office Buildings, Industrial Buildings, Flats, etc. Also required are two less experienced ASSISTANTS at approximately £700 per annum, with prospect of filling more senior posts later. Box 2931.

BRITISH HOME STORES, LTD., require ARCHITECT'S ASSISTANTS of various grades between 27 and 40 years of age for their Architect's Department. Salary rates from £650 to £1,000 per annum, according to experience. Applicants must have had at least 4 years' office experience. Positions give good opportunities for up-grading. Contributory pension scheme, non-contributory life assurance scheme, and subsidised staff canteen in operation. Applications in writing, giving full details of age, experience, etc., to be sent to Personnel Manager, British Home Stores, Ltd., Marylebone House, 129-137, Marylebone Road, London, N.W.1. 2961

PITE, SON & FAIRWEATHER invite applications from SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS for vacancies on their staff; the work on hand includes large hospital development schemes, University and school buildings, multi-storey flats and other interesting projects. Applicants should please send particulars of their training, age, and experience to Pite, Son & Fairweather, 6, Queen Anne's Gate, Westminster, S.W.1. 2953

CONTEMPORARY approach required by Brunton, Baden Hellard & Partners from ASSISTANT, about Inter. standard, for varied work in office in South-East London or W.1. Opportunity to work on pre-fabrication techniques. Good salary and working conditions, friendly office. Write full details, 96, Eltham Road, Lee, S.E.12. 2920

ARCHITECTURAL ASSISTANT required in Brewery Estate Department for work on modernisation of existing properties and preparation of schemes for new licensed premises. Good prospects, contributory pension scheme. Apply, stating age, experience, and salary required, to Chief Architect, P. Phipps & Co., Ltd., 8, Gold Street, Northampton. 2936

ASSOCIATED LEAD MANUFACTURERS, LTD., require a qualified ARCHITECTURAL ASSISTANT to their Northern Area Architect. This is a splendid opportunity for a responsible young architect requiring interesting and varied experience. Applications, which must be handwritten, stating training, qualifications, experience, age, and salary required, should be sent to M. Wilson, Dip.Arch., Dip.T.P., A.R.I.B.A., Crescent House, Newcastle upon Tyne, 1, before the 10th October, 1955. 2978

REQUIRED, in small office, Westminster, ARCHITECT'S ASSISTANT, with Inter. R.I.B.A. Able to do working drawings to all scales. Salary by arrangement. 2979

LOUIS DE SOISSONS, PEACOCK, HODGES, ROBERTSON & FRASER have vacancies in their Plymouth office for SENIOR and JUNIOR ARCHITECTURAL STAFF. The work is varied and covers Ecclesiastical, Schools, and Housing (cottages and flats). Write, stating age, salary and experience, to 5, Portland Square, Plymouth, Devon. 2982

ARCHITECTURAL ASSISTANTS, Intermediate and Final standard, required immediately in busy established Architect's office, North of London. Varied work of contemporary character, comprising industrial, commercial and housing projects. Please reply, giving details of experience, qualifications, when available, and salary required, to Box 2948.

MISHA BLACK requires ARCHITECTURAL ASSISTANTS to join Design Research Unit. Work would include the design of buildings, interiors, exhibitions. Salary £550 to £750. Apply in writing to Design Research Unit, 37, Park Street, W.1. 2952

JUNIOR ARCHITECTURAL ASSISTANT required. Apply, stating age, experience, and salary, to Sparrow & Clater, F. and A.R.I.B.A., 7, North Hill, Colchester, Essex. 2918

ASSISTANT required in busy practice in West End, in early twenties, about Intermediate R.I.B.A. Standard. Excellent opportunities for gaining all round experience. Box 1942.

DEACON & LAING, 9, St. Paul's Square, Bedford, have a further vacancy for a keen ASSISTANT, under 30, for a variety of interesting work. 3023

THE LONDON HOSPITAL, Whitechapel, E.1, requires CHIEF ASSISTANT ARCHITECT. Salary £850—£950 per annum. Applications, stating age, experience, etc., to the House Governor. 2923

SENIOR ASSISTANT required, to take charge of medium size jobs. Must have good office experience. Salary in the region of £800 p.a. Five-day week. Morris de Metz, F.R.I.B.A., 2, Ludgate Hill, E.C.4. Tel. No. CITy 4086. 3021

SIR JOHN BURNET, TAIT & PARTNERS have vacancies for SENIOR and JUNIOR ASSISTANTS. Write, giving particulars, to 10, Bedford Square, W.C.1. 2777

GRAHAM CRUMP & DENIS CRUMP, F./A.R.I.B.A., 43, George Street, Croydon, require two ARCHITECTURAL ASSISTANTS, Inter. R.I.B.A. to Finals standard. Please state experience and salary required. 2998

ARCHITECTURAL ASSISTANTS required. Interesting variety of work. Salary £700 per annum. George Watt, A.R.I.B.A., 146, Mostyn Road, S.W.19. Liberty 8181. 3020

SENIOR SHOPFITTING DRAUGHTSMAN required by leading London Shopfitters. Salary £800 to £1,000, plus bonus and pension scheme. Box 3018.

ASSISTANTS of Intermediate or equivalent standard required to assist with large schemes of contemporary nature. Salary according to experience and ability. Please write, giving full particulars of experience, to Johns, Slater & Haward, F./A.R.I.B.A., 32, Foundation Street, Ipswich. 2919

ARCHITECTURAL ASSISTANTS, of R.I.B.A. Final or Intermediate standard (or equivalent) required immediately for interesting and varied work in private practice, 50 miles London. Salary in accordance with age and experience. Please send full details to Box 3024.

RAMSEY, MURRAY & WHITE have a vacancy for ARCHITECTURAL ASSISTANT, about Intermediate standard, preferably with office experience. Salary according to qualifications. Apply 32, Wigmore Street, London, W.1, or telephone WELbeck 1409. 9823

RONALD WARD & PARTNERS require several capable ARCHITECTURAL ASSISTANTS, with contemporary outlook and willing to use own initiative. Salary range £400 to £900. Interesting and varied work, home and abroad. Congenial working conditions. Apply 29, Cheshan Place, Belgrave Square, S.W.1. Telephone: Belgravia 3361. 2136

JUNIOR ASSISTANT, competent to make measured surveys and prepare working drawings, required by Wallis & Smith, Chartered Architects, Basingstoke. Apply by letter, stating salary required. 3033

ARCHITECTURAL ASSISTANTS, Senior and Junior required, preferably with London practice experience, office and factory buildings. Write, giving particulars of experience, etc., to Messrs. Bates & Sinning, 89, Chancery Lane, W.C.2. 2808

THE London Hospital, Whitechapel, E.1, requires JUNIOR ARCHITECTURAL ASSISTANT. Salary £440 to £650 p.a. according to experience, plus London weighting. Post superannuable. Applications stating age, present salary and brief particulars of experience to be sent to the House Governor. Accommodation is available in Kensington if successful candidate is a woman. 2977

ARCHITECTURAL ASSISTANT required in busy London Office with varied practice. Good salary and prospects for suitable applicant. 5-day week. Write giving particulars of age, qualifications, experience, etc., to Box 736, c/o 7, Coptic St., W.C.1. 2826

CO-OPERATIVE WHOLESALE SOCIETY LTD., ARCHITECT'S DEPARTMENT, LONDON.
ASSISTANT ARCHITECTS, WORKER-UP, AND SHOP FITTING DRAUGHTSMAN. Applications are invited from suitably qualified persons. Salary on a scale £485—£945 inclusive of L.W., with placing according to age, qualifications and experience. The posts are superannuable, subject to medical examination. Five-day week in operation. Applications stating age, experience, qualifications and salary required to.—W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 99, Leman Street, London, E.1. 2824

CO-OPERATIVE WHOLESALE SOCIETY LTD., ARCHITECT'S DEPARTMENT, BIRMINGHAM.
APPLICATIONS are invited for the following appointments in a newly formed Branch Office. Interesting and varied commercial and industrial projects.
(A) SENIOR ASSISTANT ARCHITECT with experience in store and shop design.
(B) ASSISTANT ARCHITECTS capable of preparing working drawings and details from preliminary sketches.
Applications stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 1, Balloon Street, Manchester, 4. 2862

CO-OPERATIVE WHOLESALE SOCIETY LTD., ARCHITECT'S DEPARTMENT, MANCHESTER.
APPLICATIONS are invited for the following appointments:—
(A) SENIOR ASSISTANT ARCHITECTS with experience of work in commercial and industrial projects.
(B) ASSISTANT ARCHITECTS capable of preparing working drawings from preliminary details.
Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 1, Balloon Street, Manchester, 4. 2861

ARCHITECTURAL ASSISTANT, intermediate standard, required for busy office near Nottingham, with interesting and varied practice. Salary according to experience. Apply Box 2846.

£600/£700 p.a. for competent ASSISTANT with good office experience for work of a contemporary nature in small congenial office. Five-day week. Telephone CITy 4086. 3007

SENIOR ARCHITECTURAL ASSISTANT required, fully experienced and capable of taking charge of large schemes of contemporary nature from design stage. Salary in the region of £800—£900 p.a. Five-day week. Please write giving full particulars of experience to Johns, Slater & Haward, F./A.R.I.B.A., 32, Foundation Street, Ipswich. 2841

EDWARD D. MILLS, F.R.I.B.A., requires additional ASSISTANTS for interesting contemporary work. Apply in writing with full details to 15, Carlisle Street, London, W.1. 2894

ARCHITECTURAL ASSISTANTS urgently required. Fowler, Grove & Haggar, Chartered Architects, 140, Lodge Road, Southampton. 2864

BANK Architect's Department in City requires JUNIOR ASSISTANTS, aged 20-30, having completed or obtained exemption from National Service. Write, stating age, particulars of experience and salary required. Permanency for suitable applicants, subject to probationary period. Box 3010.

ASSISTANT, with contemporary outlook, required for busy office, Lancs./Cheshire border. Wide range of domestic, industrial, and commercial work. A.R.I.B.A. preferred, but appointment would depend on experience and ability to handle jobs from start to completion. Apply, giving particulars of salary required, to J. H. Cheetham, A.R.I.B.A., 3, Palmyra Square South, Warrington. 3004

GUILDFORD Architects require ASSISTANTS for detail work on new schools. Write, stating salary required, to Hiscock and Duncan Scott, Chartered Architects, 32, London Road, Guildford. 3003

ASSISTANT up to Final standard required by small London office. Good opportunities for general experience in a varied field. Telephone CHAncery 7252, or write Box 3000.

ARCHITECTURAL ASSISTANTS required in West End office, qualified or Intermediate standard. Varied and interesting work. Five-day week. Salary range £600—£800. 2999

ARCHITECTURAL ASSISTANTS required in Progressive New Office. Interesting work at home and abroad. Opportunity for working on own initiative. Good salary and excellent prospects for advancement. Arthur Swift & Partners, 16, Manchester Square, W.1. Tel.: Hunter 0364. 2956

ARCHITECTURAL ASSISTANTS urgently required for detailed planning work. Intermediate and Junior. Salary according to experience. Please apply to L. O. L. Hannen & John H. Markham, 7, Victoria Street, Westminster, S.W.1. Tel. Abbey 5861. 3115

SENIOR ASSISTANT required for Architects' small office in Welbeck Street. Interesting work mainly housing and planning. Thorough knowledge of building construction, specification writing and experience in site supervision, etc., essential. Salary by arrangement. Apply to Box 3113.

NORMAN & DAWBARN require ARCHITECTURAL ASSISTANTS at or above R.I.B.A. Intermediate standard with not less than 3 years' continuous office experience. Salaries will be according to age, also length and type of experience, but within the approximate range £500-£800. An interesting and varied programme of work is available. Apply by telephone or letter to 5, Gower Street, London, W.C.1. Langham 5341. 3114

VACANCIES for JUNIOR ASSISTANTS in busy office adjoining Oxford Circus. Phone Duke & Simpson: Langham 7317/8. Interviews can be arranged outside office hours if more convenient. 3086

SMALL but rapidly expanding office in Lancashire require the following assistants:—
ASSISTANT ARCHITECT, preferably Liverpool trained, but not essential, interested in contemporary methods of construction. Excellent prospects for the right man with a will to work and initiative. Salary depending on age and experience.
ARCHITECTURAL ASSISTANTS, capable of preparing working drawings under supervision: qualifications immaterial but must be quick, neat draughtsman. Salary depending on age and experience.
Reply in writing to Box 3109.

ARCHITECTS required by leading Australian firm. Salary range £1,500—£2,500. Write A. P. Stephenson, care of E. S. & A. Bank, Brook Street, London, W.1, for interview between October 6th and 14th. Appointments on permanent or temporary basis as required. Passage to Australia provided. 3107

ARCHITECT'S ASSISTANT required for varied work, including Housing, Office, and Industrial Building. Applicant must be in early twenties with at least two years' office experience, capable of undertaking small projects with a minimum of supervision. Write giving age, full particulars of experience, and salary required to Personnel Manager, Schweppes Ltd., 1/4, Connaught Place, London, W.2. 3101

SENIOR and JUNIOR ASSISTANTS required, principally for detailed design and working drawings of commercial and industrial buildings. Good salaries to suitable applicants. Five-day week. Write or telephone Scott & Westmoreland, F/F.R.I.B.A., 47, Bedford Row, W.C.1. CHAncery 7790 for appointment. 3099

ARCHITECTURAL ASSISTANT required by High Class Joinery Manufacturers and Shopfitters specialising in Bank and Office fittings, laboratories and shopfitting in general.
Assistant capable of surveying, designing and carrying out complete schemes.
Permanency for suitable man, with good prospects. Apply in writing, stating experience and salary required, The Leicester Cabinet Co. Ltd., Batten Street, Leicester. 3089

JUNIOR ASSISTANT (Age 18—24), required to assist Staff Architect of Furnishing combine. The company has branches throughout Great Britain but the H.Q. is in London. The successful applicant will be given the opportunity of running small contracts and must be prepared to work on own initiative. Occasional travelling will be involved. Contributory superannuation scheme. Write, giving full details in strict confidence, to Box 3090.

ARCHITECT'S ASSISTANT required (intermediate standard). Telephone Whitehall 1624. 3092

ARCHITECTURAL ASSISTANT required for busy contemporary office in Westminster. Salary by arrangement. Please write, giving full particulars, to Box 3093.

A VACANCY occurs for one qualified SENIOR ASSISTANT and one assistant of intermediate standard in busy private practice in London. Applicants must be first class draughtsmen and have experience of the administration of building contracts. Salary will be by arrangement according to experience, and applicants are requested to apply in writing, stating qualifications, age and salary required to Box 3094.

ARCHITECTURAL ASSISTANT required, mainly for hospital and industrial work. Good salary and prospects. Apply with full particulars to Swannell & Templeman, 6, Raymond Buildings, Gray's Inn, W.C.1. 3096

JUNIOR ARCHITECTURAL ASSISTANT required for small busy office in central London. Permanency and good prospects of advancement for keen applicant. Reply stating age, experience and salary required. Box 3097.

OLD-ESTABLISHED Mutual Life Assurance House wants a few men of initiative and integrity to act as AGENTS. Architects and Surveyors have the necessary knowledge and contacts to make business most profitable to us and them. Further details from Box 1857.

ARCHITECTURAL ASSISTANT required immediately for London Brewery. Must be good Draughtsman with sound knowledge of construction. Superannuation scheme. Please reply, giving details of experience and training with salary required to Box 3084.

£400—£700 p.a., Intermediate ASSISTANT for small congenial West Hampstead (Bakerloo) office: working drawings and site supervision: Vivian Levett, MAI 1047. 3075

A. R.I.B.A. required by leading Sydney, Australia, firm of Architects. Age 22—40. Commencing salary £A1,300 p.a. passage paid. For interview in London, reply to Box 3041.

ARCHITECTURAL ASSISTANT required in N.W. Essex, country practice. Write, stating previous experience, etc.; salary £400—£450, according to experience. Box 3037.

ASSISTANT ARCHITECTS, preferably A.R.I.B.A., with several years' practical experience. Capable designers, with knowledge of practice, and experience in preparation of working details and specifications. Salary ranges £720/£780 and £815/£850, according to experience. Apply: Chief Civil Engineer, Southern Region, British Railways, Waterloo Station, London, S.E.1. 3038

SENIOR ARCHITECT required immediately to take charge of programme of expansion of specialised shops. Suitable pay commensurate with present rates will be paid to energetic experienced man, having the necessary qualifications. Good canteen available. One month's holiday per year. Free pension scheme and many amenities provided. Applicants must give age, qualifications and full details of training and subsequent experience to Box AJ 862, LPE, 55, St. Martin's Lane, W.C.2. 3057

ASSISTANT ARCHITECT also required to work with the senior architect referred to above. Salary for this post will likewise be commensurate with qualifications and present day rates. Good canteen available. One month's holiday per year. Free pension scheme and many amenities provided. Applicants must give age, qualifications and full details of training and subsequent experience to Box AJ 863. LPE, 55, St. Martin's Lane W.C.2. 3058

ARCHITECTURAL DRAUGHTSMAN required in London Co-operative Society Works Dept., Whitta Road, Manor Park, E.12. General architectural drawing experience necessary and preference will be given to applicants with experience of preparation of drawings for industrial or commercial buildings. The successful candidate will be required to pass a medical examination and, after a short probationary period, to participate in the Society's Contributory Staff Pension Scheme. Commencing salary £475 16s. per annum. Applications stating age, details of career and technical qualifications should be addressed to Staff Office (A.J.), London Co-operative Society, Ltd., 54, Maryland Street, London, E.15, endorsed "Architectural Draughtsman." 3062

SENIOR ARCHITECTURAL ASSISTANT required in London. Salary £700 to £850, according to qualifications. Fully experienced in the preparation of working drawings and detailing. Good knowledge of construction and design essential. Apply in writing, giving full particulars of qualifications, age, and experience, to Box 3059.

ARCHITECTURAL ASSISTANT about Intermediate standard with office experience. Apply William Holford & Partners, 2, Angel Court, Throgmorton Street, E.C.2. 3067

ESTD. S·W· 1898
IRON STAIRCASES
STEELWORK
FARMER
& SON LIMITED
BALUSTRADING
FENCING
FABRICATORS IN STEEL
STAIRWAY HOUSE, COURTHILL ROAD, LEWISHAM LONDON S.E.13. 'PHONE: LEE GREEN 4334-9.

ARCHITECTURAL ASSISTANTS with imagination and initiative required by Brighton Office to London practice. Applicants should have progressive ideas and at least two years' experience after completion of training. Congenial working conditions; five-day week; staff pension scheme. Salary by arrangement, apply Box 3053.

MALE ARCHITECTURAL ASSISTANT required, Intermediate Standard. Five-day week. Salary £400—£500, according to experience. Write to Murray, Delves, Atkins & Robert Pite, 14, Chantrey House, Buckingham Palace Road, S.W.1. 3068

A FAMOUS Mutual Life Assurance House needs a few men of drive and integrity to act as AGENTS. Architects and Surveyors have the right contacts, and can best serve their "Mutual" interests. Further details from Box 2784.

JUNIOR DRAUGHTSMAN required by LONDON ELECTRICITY BOARD at Stratford, E.15. 38-hr. week. Alternate Saturday mornings. Canteen facilities. Commencing salary, based on age and experience, within scale £205/£525 p.a. incl. Application forms from Personnel Officer, 46/7, New Broad Street, E.C.2. Please enclose addressed envelope and quote ref.: GC/1387/A. 3045

A LARGE industrial concern is opening a branch office in Sheffield, and invites applicants for the following vacancies:—

ASSISTANT QUANTITY SURVEYOR.—Applicants should be prepared to act on own initiative for the preparation of approximate estimates, interim certificates and final accounts for contracts up to £10,000. Salary range to commence £600 to £700 p.a.

ARCHITECTURAL ASSISTANT.—Applicants should be of Intermediate standard and must be capable of carrying out work in the design and remodelling of service stations. Salary range £550 to £700 p.a.

BUILDING ASSISTANT.—Applicants should be 22 to 25 years of age, keen and hard-working, with practical surveying and building experience, preferably in a contractor's office, and holding the National Building Certificate.

Pension and Life Assurance Scheme; generous sickness benefits and social club. Write, giving full details of experience, age and salary required to Box 3042, quoting Ref. ARC 845.

ARCHITECTURAL ASSISTANT with at least two years' office experience, required in Croydon office for varied private practice. Good opportunity. Write stating age, experience and salary required, to George Lowe, F.R.I.B.A., 4, High Street, Croydon. 3065

ARCHITECTS and ARCHITECTURAL ASSISTANTS required, all grades, for busy Southsea practice. Apply, stating qualifications, age, experience and salary required to Box 3062.

YOUNG ARCHITECTURAL ASSISTANT required in small but busy Office in expanding South Midland town. Varied work, including domestic, industrial and commercial building. Congenial conditions. Good prospects. Please write stating experience, age and salary required. Box 3061.

REQUIRED for a small busy West End office, ARCHITECTURAL ASSISTANT of Intermediate standard with 3—4 years' office experience. General practice with wide variety of work in London and Home Counties; five-day week; bonus scheme. Apply in writing, stating age, experience and salary required to Welch & Lander, 38, Gloucester Place, Portman Square, W.1. 3038

Architectural Appointments Wanted

4 lines or under, 7s. 6d.; each additional line, 2s.

ASSISTANT for too long, free on New Year, at 44, A.R.I.B.A., A.R.I.C.S., 28 yrs. exp. but lacks capital, seeks (*a*) become sole Arch./Surv. for Commercial firm or (*b*) continue for period as Ch. Asst. with assurances not promises. Box 2929.

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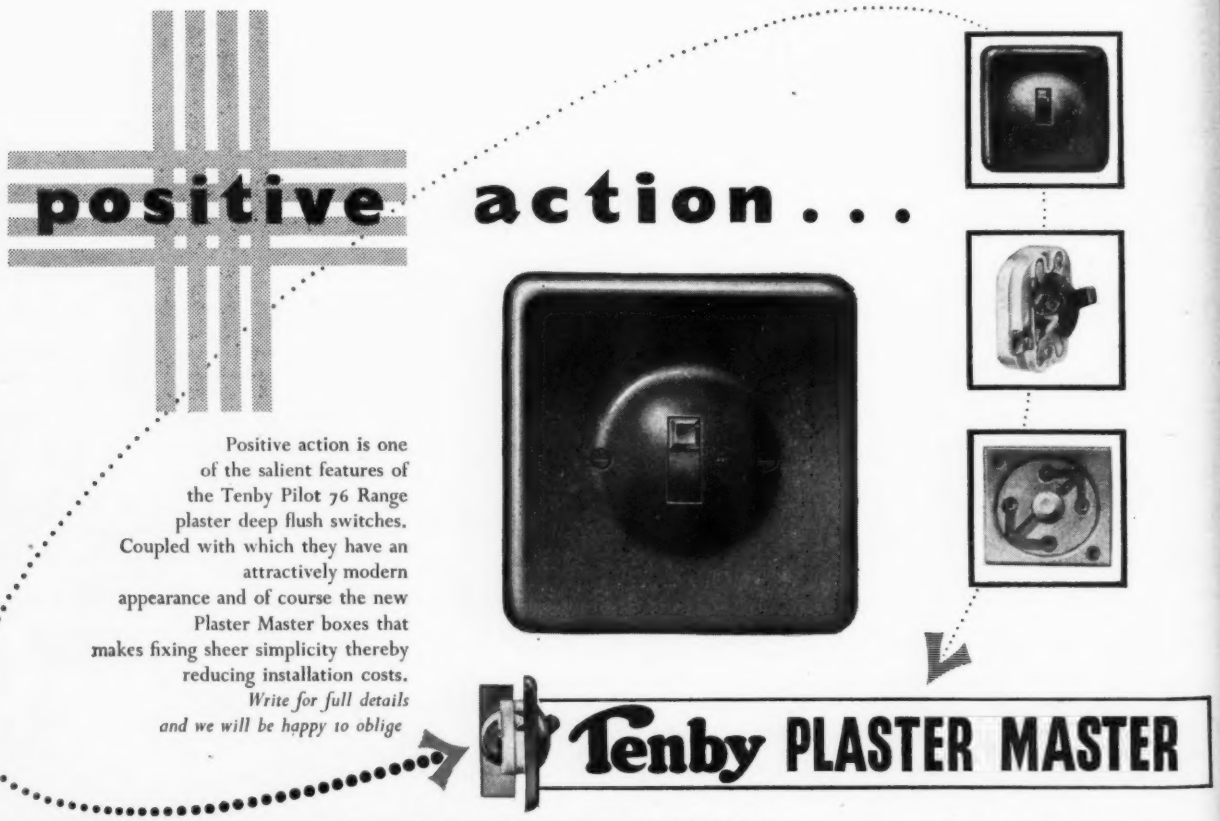
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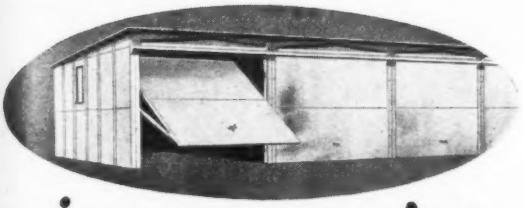
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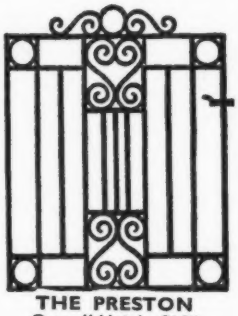
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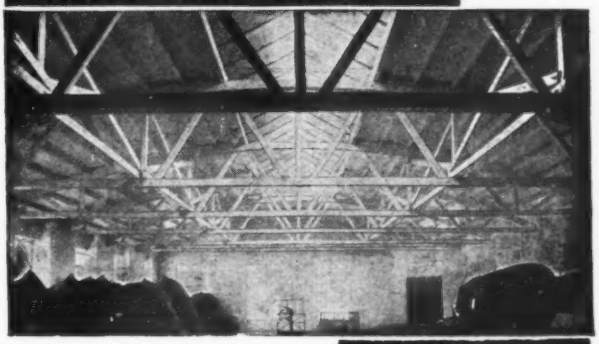
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